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# University of Illinois

at Urbana-Champaign

PROGRAMS OF STUDY

1995 ■ 1997

## UNIVERSITY CALENDAR

### Summer Session 1995

May 15	Instruction begins for Term 1
May 29	Memorial Day observed (all-campus holiday)
June 12	Instruction begins for Term 2
July 4	Independence Day observed (all-campus holiday)
July 10	Instruction begins for Term 2 second half-term courses
August 2	Term 2 instruction ends
August 3	Term 2 reading day
August 4-5	Term 2 final examinations

### Fall 1995

August 24	Instruction begins
September 4	Labor Day (all-campus holiday)
November 22-26	Thanksgiving vacation
November 27	Instruction resumes
December 8	Last day of instruction
December 9	Reading day
December 11-16	Final examinations

#### GRADUATE STUDENT DEADLINES

September 8	Last day to add name to October graduation list
September 11	Last day to take the final examination for the doctoral degree in October
September 22	Last day to deposit October master's degree theses in the Graduate College
September 29	Last day to deposit October doctoral degree theses in the Graduate College
November 6	Last day to add name to January graduation list
December 4	Last day to take the final examination for the doctoral degree in January
December 8	Last day to deposit January master's degree theses in the Graduate College
	Last day to remove an Ex grade from the previous semester to prevent change to an E grade
December 15	Last day to deposit January doctoral degree theses in the Graduate College

### Spring Semester 1996

January 11	Instruction begins
January 15	Martin Luther King, Jr., Birthday observed (all-campus holiday)
March 9-17	Spring vacation
March 18	Instruction resumes
May 1	Instruction ends
May 2	Reading day
May 3-10	Final examinations
May 12	Commencement

### Summer Session 1996

May 13	Instruction begins for Term 1
May 27	Memorial Day (all-campus holiday)
June 10	Instruction begins for Term 2
July 4	Independence Day (all-campus holiday)
July 8	Instruction begins for Term 2 second half-term courses
July 31	Term 2 instruction ends
August 1	Term 2 reading day
August 2-3	Term 2 final examinations

### Fall Semester 1996

September 3	Instruction begins
November 27-December 1	Thanksgiving vacation
December 2	Instruction resumes
December 13	Instruction ends
December 14	Reading day
December 16-21	Final examinations

### Spring Semester 1997

January 21	Instruction begins
March 22-30	Spring vacation
March 31	Instruction resumes
May 7	Instruction ends
May 8	Reading day
May 9-16	Final examinations
May 18	Commencement

University of Illinois administrative offices at Urbana-Champaign are open Monday through Friday from 8:00 a.m. to 12:00 noon and 1:00 to 5:00 p.m., except on all-campus holidays which are indicated in the University Calendar.

An information center, available to visitors to the campus, is located in the north entrance lobby of the Illini Union. The center is open from 8:00 a.m. to 8:00 p.m. Monday through Saturday and 10:00 a.m. to 6:00 p.m. on Sunday, when classes are in session.

Small group information sessions about the campus are available at the Campus Visitor's Center in Levis Faculty Center, 919 West Illinois Street. Visitors are welcome between 8:00 a.m. and 5:00 p.m., Monday through Friday, excluding campus holidays.

In compliance with the reporting requirements of the federal Student Right to Know Act, the 1993 completion or graduation rate for students who entered the University of Illinois at Urbana-Champaign in 1987 on a full-time basis was 80 percent.

The commitment of the University to the most fundamental principles of academic freedom, equality of opportunity, and human dignity requires that decisions involving students and employees be based on individual merit and be free from invidious discrimination in all its forms.

It is the policy of the University of Illinois not to engage in discrimination or harassment against any person because of race, color, religion, sex, national origin, ancestry, age, marital status, disability, sexual orientation, unfavorable discharge from the military, or status as a disabled veteran or a veteran of the Vietnam era and to comply with all federal and state nondiscrimination, equal opportunity and affirmative action laws, orders, and regulations. This nondiscrimination policy applies to admissions, employment, access to and treatment in each University program and activity.

Among the forms of invidious discrimination prohibited by University policy but not law is sexual orientation. Complaints of invidious discrimination based solely upon policy are to be resolved within existing University procedures. As of the printing of this catalog, all Military Science and Air Force Aerospace Studies leadership laboratory courses are out of compliance with the University's policy of nondiscrimination based on sexual orientation.

For additional information on the equal opportunity and affirmative action policies of the University, please contact on the Urbana-Champaign campus: Larine Cowan, interim director of affirmative action (and Title IX, ADA, and 504 Coordinator), 202 Swanlund Administration Building, MC-304, 601 East John Street, Champaign, IL 61820, (217) 333-0885.

Information contained herein is for informational purposes only and is subject to change without notice. Individual departments and units should be contacted for further information. Courses, faculty assignments, prerequisites, graduation or completion requirements, standards, tuition and fees, and programs may be changed from time to time. Courses are not necessarily offered each semester or each year. The University retains the exclusive right to judge academic proficiency and may decline to award any degree, certificate, or other evidence of successful completion of a program, curriculum, or course of instruction based thereupon. While some academic programs described herein are designed for the purposes of qualifying students for registration, certification, or licensure in a profession, successful completion of any such program in no way assures registration, certification, or licensure by an agency other than the University of Illinois.

# University of Illinois

at Urbana-Champaign

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## HOW TO USE THIS CATALOG

This catalog provides general information about the University of Illinois at Urbana-Champaign and detailed information about the undergraduate programs of study offered by eight undergraduate colleges, the School of Social Work, the Institute of Aviation, and the College of Veterinary Medicine, as well as information on graduate education offered at the University. Separate catalogs are published for the College of Law at Urbana-Champaign and for the University of Illinois at Chicago. There is also a separate *Courses* catalog, which gives information about all courses—both undergraduate and graduate—that are currently available at the University as possible offerings. These catalogs are available from the addresses on the inside back cover.

The catalog has four major sections. The first part (pages 1 to 46) provides information about student services, research and instructional resources, undergraduate admission, student costs, financial aid, precollege programs, special opportunities, the grading system and other regulations, graduation requirements and honors, Reserve Officers' Training Corps, and the Council on Teacher Education. The second part (pages 47 to 170) has separate sections for each of the undergraduate colleges, the Institute of Aviation, and the College of Veterinary Medicine, which detail their curricula, special academic programs, specific requirements for graduation, honors programs, and other information.

The graduate programs portion (pages 171 to 235), describes requirements and procedures for graduate study and gives detailed information about graduate degrees offered at the University.

Persons who are unfamiliar with the University may find it helpful to refer first to the introductory material in the first part for general descriptions of the Urbana-Champaign campus.

The final section of the catalog includes a complete faculty listing, appendices, and an index.

Publications that supplement this catalog, and that are available from the Office of Admissions and Records at the address on the inside back cover, are the *Timetables*, which list courses offered each term, class meetings times, registration instructions, and tuition and fee charges; and the *Code on Campus Affairs and Handbook of Policies and Regulations Applying to All Students*, which contains administrative, academic, and conduct regulations. These publications are also available on campus at the Turner Student Services Building and at 177 Henry Administration Building.

Additional information about the University is available by telephoning the campus at (217) 333-1000 and asking the operator for the proper telephone number.

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The University of Illinois at Urbana-Champaign was founded in 1867 as a state-supported, land-grant institution with a threefold mission of teaching, research, and public service. During its history, the University has earned a reputation as an institution of international stature. It is recognized for the high quality of its academic programs and the outstanding facilities and resources it makes available to students and faculty. Scholars and educators rank it among a select group of the world's great universities.

### **The Campus**

Located in the adjoining cities of Champaign and Urbana (combined population 100,000), approximately 140 miles south of Chicago, the University and its surrounding communities offer a cultural and recreational environment ideally suited to the work of a major research institution.

Close proximity by air, rail, bus, or car to Chicago and ready access to major cities on both coasts through daily flights to and from the University's Willard Airport make it possible to maintain the close contact with major cultural centers that is essential to the intellectual life of an international university.

The University is a residential campus of classrooms, laboratories, libraries, residence halls, and recreational and cultural facilities with 193 major buildings on the central campus of 785 acres. Nearby are the University's 1,650-acre Willard Airport; Robert Allerton Park, the campus's 1,768-acre nature and conference center; and 3,600 acres of agricultural land. An additional 3,700 acres of farmland elsewhere in Illinois are used by the College of Agriculture as experimental fields.

Nearly every facility on campus is accessible to the physically disabled, and the University's programs and services for the disabled have served as models worldwide.

### **Colleges and Schools**

Eight undergraduate colleges and one school offer 150 programs of study leading to baccalaureate degrees. They are the Colleges of Agriculture, Applied Life Studies, Commerce and Business Administration, Communications, Education, Engineering, Fine and Applied Arts, Liberal Arts and Sciences, and the School of Social Work. A certificate program is offered by the Institute of Aviation. Postbaccalaureate students study in more than 100 fields through the Graduate College and in professional programs through the Colleges of Law, Medicine, and Veterinary Medicine. National surveys consistently rank the University of Illinois at Urbana-Champaign among the top ten institutions in many fields of study, with several colleges and departments ranked among the top five.

### **Student Body**

There are approximately 36,400 students and 9,140 faculty and staff members in the University community. About 26,000 undergraduates (57 percent male, 43 percent female), typically from every state in the union and about 100 foreign countries, enroll each year; 93 percent of the undergraduates are Illinois residents. Minority students make up about 13 percent of the total enrollment.

Undergraduate education is strongly emphasized, and admissions are very competitive. The median ACT composite score of entering freshmen is 27, and more than 25 percent of these students ranked in the top 3 percent of their high school classes. The majority of transfer students enter the University with 4.0 grade-point averages (A = 5.0).

Approximately 100 freshmen are selected annually to join the Campus Honors Program as Chancellor's Scholars. The program fosters close, collaborative relationships between top students and distinguished faculty members through special honors sections, faculty mentors, and summer research opportunities.

Most undergraduate students receive baccalaureate degrees after four years, and many go on to advanced study in the humanities, the sciences, the social sciences, and various professional fields. Typically, 80 percent of the graduates who apply to law school are accepted; 65 percent are accepted to medical school.

### **Courses and Class Size**

More than 4,000 courses are available, although some may not be offered every semester. About 80 percent of all class sections have fewer than thirty students; 46 percent have fewer than twenty.

### **Graduate Studies**

The Graduate College is the academic and administrative unit that has jurisdiction over all programs leading to advanced degrees. The Graduate College develops and safeguards standards of graduate work and promotes and assists research by faculty members and graduate students in all fields.

The University of Illinois at Urbana-Champaign enrolls approximately 9,000 graduate students and offers advanced degrees in more than 100 fields of study. In addition to the M.A. or M.S. and Ph.D. degrees offered in many disciplines, a number of departments offer work leading to other graduate degrees. Among these are master's and doctoral degrees in professional and performing arts fields and various master's degrees in teaching.

Descriptions of these degrees are given in the appropriate departmental sections of the Graduate Programs section. More detailed descriptions of graduate programs and the requirements for the degrees may be obtained from the individual departments.

### **Academic Calendar**

The campus has an academic calendar of two sixteen-week semesters and a twelve-week summer session. The fall semester begins in late August and ends in mid-December; the spring semester begins in early January and ends in mid-May. The summer session, which consists of one four-week term and one eight-week term, extends from mid-May to early August. Classes are taught during the hours of 8:00 a.m. to 5:00 p.m.; a few evening classes are conducted, primarily for graduate students.

### **Faculty**

Scores of faculty members are members of the American Academy of Arts and Sciences, the National Academy of Sciences, and the National Academy of Engineering. Eight scientists received the National Medal of Science while on the faculty. Twenty-six faculty members have received the Presidential Young Investigators Award, established by Congress to support research by faculty members near the beginning of their academic careers.

The University of Illinois at Urbana-Champaign is a leading center for graduate education in the nation. A distinguished graduate faculty of approximately 2,200 members supervises and guides graduate students in research, scholarship, and teaching.

### **Cultural Resources**

The University Library has the third largest collection of any academic library in the nation, with more than 8 million bound volumes and over 14 million total items. The University Library includes more than thirty-eight departmental libraries across campus and in the main library building.

The University attracts more than \$170 million each year in private, state, and federal grants and contract appropriations. In recent years, a significant amount of this support has been directed toward the creation and development of major centers for advanced research and study, including more than \$100 million for the National Center for Supercomputing Applications. This center has established the University as a recognized world leader in the fields of supercomputing architecture, design, and applications. In 1985, the University was the recipient of the largest single gift ever made by an individual to a public university—\$40 million from University alumnus Arnold O. Beckman for the establishment of the Beckman Institute for Advanced Science and Technology. In 1989, the University formally opened the Beckman Institute, where interdisciplinary research is conducted on human and artificial intelligence.

A major center for the arts, the campus attracts dozens of nationally and internationally renowned artists each year to its widely acclaimed Krannert Center for the Performing Arts. Designed by Max Abramovitz, who also worked on New York City's Lincoln Center, Krannert Center has four indoor theatres and an outdoor amphitheatre and is a magnificent showcase for music, theatre, opera, and dance. It also houses generous rehearsal spaces and studios, and professional shops for scenery, costume, properties, audio, and lighting production. More than 300 performances are offered each year, including those by the world's finest professional artists, from Itzhak Perlman, Jessye Norman, and the great international orchestras to dance and theatre companies to jazz, folk, and family programs. These perfor-

mances complement a full season of productions by the Departments of Theatre and Dance and the School of Music.

The Krannert Art Museum has a diverse collection of 8,000 objects ranging from European and American paintings, to contemporary art and photography, African, pre-Columbian, and Asian art. A full schedule of temporary exhibits complements the permanent collections. The World Heritage Museum houses collections of artifacts from the ancient Middle East, Egypt, Europe, Africa, Asia, and the Americas. The Museum of Natural History has displays on early humans, flowering and nonflowering fossil plants, animal exhibits, and more than 400,000 research specimens. These museums and the John Philip Sousa Museum and Library are used for research, teaching, and enjoyment. Student work in architecture and related areas is exhibited in the Temple Buell Architecture Gallery. The Japan House provides members of the campus community an opportunity to experience the teaching of Japanese arts in a realistic setting.

The Illini Union is a common meeting place for students, faculty, staff, and visitors to eat, play, study, and relax. It contains cafeteria and dining facilities, guest rooms, an art gallery, reading and television rooms, billiards and electronic game rooms, bowling lanes, a ticket and check-cashing counter, and the alumni office. The Illini Union Art Gallery exhibits a broad range of contemporary art and craft objects.

Distinguished public figures and outstanding scholars appear regularly on campus for symposia, lectures, forums, and public discussions.

WILL-TV and WILL-AM and -FM radio stations, all affiliated with the Public Broadcasting Service, provide a wide range of cultural programs to a large area of the state.

Many concerts are given in the Music Building and Smith Music Hall, and films are shown on campus throughout the year. Students direct, produce, and act in plays presented at the Armory Free Theatre.

The University's Intramural-Physical Education Building is one of the world's largest structures for university intramural sports and recreational facilities.

The Assembly Hall holds the distinction of being the world's second largest edge-support dome. It has a permanent seating capacity of 16,000, and is used for Big Ten basketball games, performances by touring companies, concerts, conventions, convocations, and other activities. Special events are scheduled throughout the year.

Memorial Stadium, with a seating capacity of 70,000, is home for Fighting Illini football.

Willard Airport serves commercial, general, and private aviation, and houses the Institute of Aviation. Located six miles southwest of campus, the airport is also a center for research, education, and military aviation.

### Recreational Facilities

The University of Illinois is the home of one of the top collegiate recreational sports programs in the nation, the Division of Campus Recreation (DCR). All sectors of the University community can participate in the multifaceted recreation programs sponsored by the division.

Recreational programs and services include excellent multipurpose facilities, special events, outdoor recreation, sports clubs, intramurals, exercise and fitness programs, Ice Arena activities, and student leadership and employment opportunities.

One of the most popular recreational areas on campus is the Intramural-Physical Education (IMPE) Building on Peabody Drive. This facility contains gymnasiums, indoor and outdoor swimming pools, handball/racquetball and squash courts, and outdoor tennis courts. There are also weight-training rooms, exercise rooms, an archery range, a camping equipment and resource room, a games room, combatives rooms, and administrative offices.

The Ice Arena, 406 East Armory, is open year-round for skating, hockey, broomball, skating lessons, parties, and other activities. A new athletic recreational facility, the Atkins Tennis Center, opened in 1991.

Throughout the year, DCR offers diverse programs appealing to a wide range of interests. These special events include Fresh Starts, Quad Day, Sports Trivia Bowl, poolside concerts, and activities for children living in Orchard Downs.

Exercise and fitness programs sponsored by DCR include aerobics classes, water exercise, and low-impact aerobics classes. Several wellness programs are also offered through the SportWell Program.

More than forty sport clubs provide a variety of activities for students, ranging from martial arts and scuba to rugby and ice hockey. Team and individual sports competitions, practice sessions, and tournaments with other universities are possible.

The outdoor recreation program offers opportunities for students to rent camping and outdoor equipment such as tents, backpacks, and skis. Several clinics, weekend workshops, and extended trips to such areas as the Grand Canyon and the Florida Everglades are scheduled during the year.

Approximately thirty activities are available to students in the organized intramural sports program. Students can participate in men's, women's, coeducational, and graduate/faculty/staff divisions in sports ranging from flag football, soccer, and basketball to tennis, swimming, and wrestling. Novel sports such as in-line skating, ultimate frisbee, broomball, and wallyball have many enthusiastic participants.

Students may apply for part-time employment and volunteer leadership opportunities at DCR. Each year more than 500 students work as intramural sports officials and supervisors, lifeguards, receptionists, designers, aerobic instructors, building/field supervisors, and intramural event managers.

### Student Activities

One of the distinct advantages of a large university is that students with varying interests can find many avenues for expression. At the Urbana-Champaign campus, there are about 750 registered student organizations.

Approximately 24 percent of the undergraduate students are actively affiliated with the Greek system, the largest fraternity and sorority system in the nation with fifty-seven fraternities and twenty-seven sororities.

All three branches of the armed services have Reserve Officers' Training Corps units on campus.

Students have the opportunity to participate in performances by eleven different choral groups, five bands plus the Marching Illini, three orchestras, five jazz bands, innumerable small ensembles, and even a Russian-style balalaika orchestra. Each year, Illinois Opera Theatre stages full-length operas, operettas, and opera scene programs. Athletics provide another avenue of enjoyment outside the classroom. The campus intramural program is the largest in the nation, with 75 percent of all students participating.

The campus is a member of the Big Ten Intercollegiate Conference, and in recent years its athletic programs have achieved national stature in a number of men's and women's sports. The Fighting Illini, in orange and blue, field nine men's teams and eight women's teams. Men's intercollegiate sports include baseball, basketball, cross-country, football, golf, gymnastics, tennis, track and field, and wrestling. The women's program includes basketball, cross-country, golf, gymnastics, swimming/diving, tennis, track and field, and volleyball.

### Campus Visitors Center

Prospective students and their parents are invited to visit the campus and participate in small group information sessions at the Campus Visitors Center. The center is open from 8:00 a.m. to 5:00 p.m. Monday through Friday, excluding campus holidays. Presentations are made by staff members of the Office of Admissions and Records, and arrangements can be made to meet with admission counselors and with representatives from specific academic units, the Offices of Student Financial Aid, and the Housing Division. The Campus Visitors Center is located in the Levis Faculty Center, 919 West Illinois Street, one block west of Lincoln Avenue in Urbana.

Student-conducted tours of the campus are available when classes are in session and weather permits. Reservations are recommended and may be made by calling the Campus Visitors Center, (217) 333-0824.

## STUDENT SERVICES

### INFORMATION SERVICES

#### CAMPUS INFORMATION SERVICES

Campus Information Services at the north entrance to the Illini Union (333-INFO) answers questions and offers information about the University. If a student does not know exactly where to find help, the center will refer the student to the proper department.

### COUNSELING SERVICES

#### COUNSELING CENTER

The Counseling Center is staffed by clinical and counseling psychologists, a health educator, a reading and study method specialist, predoctoral interns, graduate assistants, and paraprofessionals who provide a variety of services to help students with academic, personal, relationship, and vocational problems. Among the services offered are workshops on specific topics such as identifying and referring troubled students, test anxiety, time management, adult children of alcoholics, survivors of child sexual abuse and acquaintance rape, eating disorders and disturbances, and dual-career issues. Also offered are reading and study classes; individual, couple, and group counseling (short- and intermediate-term), and referral services for long-term counseling; and consultative services to University departments and staff members.

The Counseling Center has a Self-Help Information Center (SHIC) in the Undergraduate Library. The center sponsors student-led support groups for a variety of issues and concerns. The center aims to be aware of and sensitive to both the regular and special needs of students of color, students with disabilities, international students, and gay, lesbian, and bisexual students. Fees for the services of the Counseling Center have been prepaid through the student health fee. All counseling is completely confidential.

#### DEAN OF STUDENTS

The staff in the Dean of Students Office at 300 Turner Student Services Building (333-0050) provides general counseling to all students. Staff members are available to help students cope with whatever problems face them at the University, including sexual harassment, assault, discrimination, and grievances. A dean is available twenty-four hours a day to help in emergencies. Call the Emergency Dean at 333-0050 at any time for help.

#### MINORITY STUDENT AFFAIRS

The Office of Minority Student Affairs (MSA) at 110 and 130 Turner Student Services Building (333-0054) provides leadership in developing, implementing, and coordinating student support services and activities designed to assist minority students' personal development and academic achievement. MSA provides guidance and counseling support to minority students in all areas relevant to their persistence and success on campus, including general adjustment, financial aid, and career selection. Particular emphasis is placed on assisting students who come from backgrounds underrepresented on the campus or who are academically underprepared. By promoting and developing programs, and by collaborating with other Student Affairs campus units as they develop programs, MSA seeks to help minority students grow educationally and personally. MSA assists campus units and student organizations in creating environments and programs that will attract, support, and bolster minority students' success and continuation at the University. MSA helps academic units monitor the progress of students and makes appropriate referrals to Student Affairs and/or academic units. MSA administers the federally funded Student Support Services (TRIO), Project Upward Bound, and Ronald E. McNair Postbaccalaureate Degree programs.

#### GRADUATE COLLEGE MINORITY STUDENT AFFAIRS OFFICE

The Graduate College Minority Student Affairs Office coordinates minority graduate student recruitment, collects and disseminates information for prospective and current minority students, and counsels minority students who have problems with financial aid, academic matters, race relations, or personal and social concerns. In addition, the office supports the activities of many campus groups involved with minority graduate students, including the Black Graduate Student Association, La Casa Cultural Latina, the Bilingual

Multicultural Education Student Association, and the African-American Cultural Program. These groups, in turn, help the office in disseminating information and assisting students. For more information, call 333-4860.

### FINANCIAL AID AND STUDENT EMPLOYMENT SERVICES

#### OFFICE OF STUDENT FINANCIAL AID

Staff members on the fourth floor of the Turner Student Services Building (333-0100) provide information on the four main types of student financial aid administered by the University: scholarships, grants, loans, and employment. Employment assistance also is available to all students, whether or not they have applied for financial aid. For a more complete description of student financial aid programs and services, see page 26 of this catalog.

### CAREER SERVICES

#### CAREER SERVICES CENTER

The Career Services Center in 310 Turner Student Services Building (333-0820) offers students a wide range of career-related services, including individual and group counseling, assistance on job search efforts, choice of major, career planning, graduate and professional school admissions strategies, and help in identifying postgraduate employment opportunities. The Career Exploration Center has occupational literature and directory information, job search aids, government career information, graduate and professional school directories and resources, and special interest resources to assist women and minorities with career and life planning. Each year, the center sponsors many on-campus career seminars and workshops of interest to the student community. The staff here also maintains permanent credentials/recommendations files for students to use for graduate school applications.

#### HEALTH PROFESSIONS INFORMATION

The Health Careers House at 901 Illinois Street, Urbana, (333-7079) provides advising and career counseling for students interested in dentistry, medicine, osteopathic medicine, optometry, pharmacy, and podiatry. This office maintains a complete collection of catalogs from U.S. health professional schools as well as information about foreign schools. A faculty evaluation service is provided for the pre-health-professional major. Counselors are available on an appointment basis to advise students on the preprofessional curriculum and help them apply to professional schools.

#### COUNSELING CENTER

The center, with one location on the second floor of the Turner Student Services Building (333-3704) and one location on the third floor of the McKinley Health Center (333-8360), offers workshops and individual counseling to help students with career or career-related problems. SIGI Plus career development computer program is available at the Self-Help Information Center in the Undergraduate Library.

#### COLLEGE PLACEMENT OFFICES

Individual colleges and departments on campus sponsor their own job placement programs for majors. These offices provide advising and job search assistance. Each office makes arrangements for employer representatives to conduct interviews on campus.

### EXTRACURRICULAR ACTIVITIES

#### REGISTERED STUDENT ORGANIZATIONS

This office at 280 Illini Union (333-1153) is the headquarters for registered student organizations. Information is available on more than 700 student organizations, representing a wide variety of professional, social, recreational, athletic, and religious interests.

#### ILLINI UNION BOARD

This organization, more commonly known as IUB, provides and directs cultural, educational, social, and recreational programs of an all-campus nature. Events such as the annual Dad's Day and Mom's Day celebrations and the Homecoming Court Program are coordinated by the IUB, along with concerts, films, and lectures. IUB also sponsors the Block I football cheering section, Quad Day, Activity Day, and the spring and fall musicals, as well as publishing the *Illini* book. The IUB office is located at 284 Illini Union (333-3660).



## SPECIALIZED SERVICES

### EDUCATIONAL OPPORTUNITIES PROGRAM

Students who enter the University of Illinois under the auspices of either the Educational Opportunities Program (EOP) or the President's Award Program (PAP) are eligible for extensive academic services through the Office of Minority Student Affairs (MSA), located at 110 and 130 Turner Student Services Building (333-0054). Participants may receive individual or small-group tutorial assistance in most disciplines. MSA's services are not remedial, but are designed to help students maintain academic success. The MSA staff provides academic, financial, and career counseling as well as study skills assistance for all students admitted to the University under the auspices of either program.

### GRADUATE STUDENT ADVISORY COUNCIL

The Graduate Student Advisory Council (GSAC) communicates the concerns of graduate students to the dean and staff of the Graduate College. Responding to the changing needs of graduate students, GSAC identifies and clarifies the issues and makes recommendations to the Graduate College. GSAC is composed of fifteen appointed graduate students, representing the range of graduate programs at the University of Illinois at Urbana-Champaign. In addition to the council members, each department has a graduate student who serves as a contact person for GSAC. Apart from GSAC, graduate student associations are active in many departments.

### INTERNATIONAL STUDENT AFFAIRS

The Office of International Student Affairs (OISA) at 510 East Daniel Street, Champaign, provides a variety of services to international students at the University of Illinois including advice and counsel on matters affecting their adjustments to a new academic system and culture. The office assists students with employment clearances and financial matters. It provides advice and information on visas and other federal regulations applying to international students, alien income tax returns, insurance, housing problems, English language problems, or personal problems. In addition, it ensures that a broad range of programs is offered across campus to highlight its international flavor. American students may get involved with the office through the volunteer student group called Student Diplomats. For further information, contact OISA at 333-1303.

### REHABILITATION EDUCATION SERVICES

Since 1947 the University of Illinois at Urbana-Champaign has pioneered in facilitating the education of students with disabilities. Campus facilities are among the best in the nation, and applications from persons with disabilities are welcomed. The Division of Rehabilitation Education Services in the College of Applied Life Studies is responsible for planning campus facilities to ensure that all are accessible to and usable by students with disabilities. The division also provides a variety of services and opportunities such as early registration, housing arrangements, transportation, prosthetic/wheelchair repair, physical therapy and functional training, medical services, counseling services, recreation and athletics, and services to the visually and hearing impaired. For information about graduate education and degree programs in rehabilitation education, with areas of concentration in counseling and administration, supported employment and rehabilitation engineering, applicants are encouraged to contact the director of the division at the Rehabilitation Education Center, University of Illinois at Urbana-Champaign, 1207 South Oak Street, Champaign, IL 61820; (217) 333-4600.

Prospective students with permanent disabilities are strongly encouraged to communicate with the division prior to enrollment to ascertain how their particular program can be implemented. The division works closely with academic units to establish the manner in which degree requirements can be met.

### VETERANS AFFAIRS

The Office of Veterans Affairs on the fourth floor of the Turner Student Services Building (333-0100) administers the GI Bill and other veterans educational benefits programs.

### OFFICE OF WOMEN'S PROGRAMS

Services for students are administered at 2 Turner Student Services Building (333-3137). Special programs include Campus Acquaintance Rape Education (CARE), a Women's Programs Paraprofessionals peer advising group, a Women's Resources Directory, workshops,

speakers, the Verdell Frazier Young awards for women who are continuing interrupted educations, and support groups that focus on a number of issues pertinent to women. The staff has general information especially for traditional-age and reentry-age women students.

## AIDS FOR IMPROVING ACADEMIC PERFORMANCE

### COUNSELING CENTER

The Counseling Center at the Turner Student Services Building offers noncredit, nongraded classes designed to improve reading speed, comprehension, and general study skills. Classes are taught in small groups with individual instruction provided when necessary. A nominal fee is charged. In addition, a Study Assistance Lab is available, free of charge, to provide students with an opportunity to receive individual assistance with their study-related problems. Computer-assisted study skills instruction is available at the Self-Help Information Center in the Undergraduate Library. For more information, call 333-3704.

### RHETORIC TUTORIAL

Rhetoric 100 (Rhetoric Tutorial) is designed primarily as an adjunct to Rhetoric 101 and 102, and is open only to students enrolled in these two courses. A student is placed in Rhetoric 100 on the basis of rhetoric test scores.

The tutorial meets weekly, and the student receives one semester hour of credit on a satisfactory/unsatisfactory basis. The tutorial is devoted to individual writing problems and may be repeated for a total of two semester hours of credit.

### SUPPORTIVE INSTRUCTION

Academic assistance is available to students admitted under the auspices of the Educational Opportunities Program (EOP) or the President's Award Program (PAP), as described previously. Supportive instruction includes Supplemental Instruction (SI) and reviews that are coordinated with, and supported by, faculty and academic departments that sponsor the supported courses.

## MEDICAL AND HEALTH SERVICES AND INSURANCE

Students enrolled in credit courses and in attendance on the Urbana-Champaign campus are assessed separate fees that cover health service at the McKinley Health Center and group health insurance.

### HEALTH SERVICE

The health service fee supports the medical services available on campus at the McKinley Health Center, 1109 South Lincoln Avenue, Urbana. These services include (1) the diagnosis, treatment, and follow-up of acute and chronic illnesses; (2) a twenty-four-hour "dial-a-nurse" to advise on appropriate treatment and referral to local hospitals; (3) gynecology services; (4) preventive medicine; (5) mental health care; and (6) health education. In addition, many diagnostic tests are available, including laboratory procedures and radiologic examinations. A pharmacy provides most medications when they are prescribed by a McKinley Health Center physician.

All of these services are available at no additional cost to students who have paid the health service fee. Dependents are not eligible for care at the health center unless they are also enrolled students at the Urbana-Champaign campus. McKinley Health Center is fully accredited as an ambulatory health-care facility by the Joint Commission on Accreditation of Healthcare Organizations. For further information about the McKinley Health Center, call 333-2701. (See Student Health Insurance, page 25.)

### GROUP HEALTH INSURANCE

Insured students may extend coverage for themselves and their dependents for a limited period following graduation or withdrawal from school. This must be done before they leave campus; it cannot be done by mail. The Student Insurance Office will provide information on procedures and deadlines.

Students who present evidence of continuing equivalent medical insurance coverage may be exempted from paying the fee for the University insurance if they submit a petition to the Student Insurance Office during the period provided for the exemption of fees and if it is approved. Once the student is declared exempt, the exemption is continuous.

Students may request that they be reinstated at any time during a term; however, reentry into the insurance program is subject to

approval of a medical history. If approved, coverage is effective on the date of the application. There is no prorated premium.

## HOUSING

Housing for students at the University of Illinois at Urbana-Champaign is provided in University residence halls, fraternities, sororities, private residence halls, and houses.

Present regulations require all single undergraduate men and women students to live for the entire academic year in housing that is certified by the University, unless the student reaches the age of twenty-one or achieves 30 semester hours of earned academic credit by August 15 of the academic year.

Housing that is certified includes University residence halls, fraternities and sororities, and privately owned housing that meets University standards. Within this system, there is a wide range of facilities, rates, and services offered.

Information about housing is presented in greater detail in a brochure mailed to each undergraduate student with the Notice of Admission to the University of Illinois at Urbana-Champaign.

### UNIVERSITY RESIDENCE HALLS

Approximately 8,300 men and women live in twenty-two University residence halls. Any single undergraduate student qualified to enter the University may apply for residence hall accommodations. Room assignments are made in accordance with the University of Illinois policy on nondiscrimination.

University residence halls are located at points convenient to most areas of the main campus. Individual halls accommodate from 151 to 658 students, largely in double rooms. Residence halls offer a room-and-board contract with a choice of two dining plans.

A University residence hall contract is sent to each undergraduate student who is accepted for admission. The completed contract should be returned promptly if the student desires accommodations in a University residence hall.

### PRIVATELY OWNED CERTIFIED HOUSING

Privately owned residence halls, ranging from large, coeducational room-and-board halls to smaller, supervised suite-living arrangements, are available. All meet educational, safety, fire, and health requirements of the University. Smaller clusters of students live in other facilities offering a room-only or a room-with-kitchen-privileges option. All are within the campus community and a short walk to the Quad.

A descriptive list of these facilities is available from the staff in the Certified Housing/Housing Information Office, 2 Turner Student Services Building, 610 East John Street, Champaign, IL 61820 by writing or visiting the office, or by calling (217) 333-1420.

Students are encouraged to visit the office to discuss privately owned housing arrangements with a housing consultant. Office hours are from 8 a.m. to noon and from 1 to 5 p.m. Monday through Friday, except on holidays.

### FRATERNITIES AND SORORITIES

Fifty-seven fraternities and twenty-seven sororities, representing approximately 6,300 members at the Urbana-Champaign campus, comprise the Greek community. Fifty fraternities and twenty-two sororities have living accommodations for most of their members, with an average occupancy of fifty. The opportunity for membership in a fraternity or sorority exists whether the student lives in the chapter house or not; however, many chapters have live-in requirements. Most students move into their chapter house their second year of membership. Costs for room and board vary from chapter to chapter, however they are not significantly greater than those in other housing facilities.

Membership in fraternities and sororities is by invitation. Invitations or bids are issued after formal and/or informal recruitment functions. The Greek community is very diverse in the type and size of chapters available and, because of this diversity, there are variations in how to join. Two opportunities for joining are available to women: Panhellenic Formal Sorority Rush, which is held at the beginning of the fall semester; and rush events and informals that individual chapters host. For men interested in joining a fraternity, the Interfraternity Council offers a concentrated period of rush at the beginning of each semester, as well as the opportunity of joining at any point in the semester. Individuals interested in Black Greek Council chapters need to attend a chapter's informational session to get

involved in the intake process. For more information, please contact the Black Greek Council at 244-6493, the Interfraternity Council at 333-3308, or the Panhellenic Council at 333-3742.

### HOUSING FOR STUDENT FAMILIES

There are approximately 1,000 University-owned apartments, some of which are available to undergraduate student families. There is also a variety of privately owned housing facilities in the community. An application for University-owned apartments can be obtained by writing to the Family Housing Office, University of Illinois at Urbana-Champaign, 1841 Orchard Place, Urbana, IL 61801.

A listing of privately owned furnished and unfurnished apartments with rental rates and other information is available for review in the Certified Housing/Housing Information Office, 2 Turner Student Services Building.

Generally, November 1 to March 1, and June 1 to October 1 are considered the most desirable times to visit the campus to arrange for apartment accommodations for the first and second semesters, respectively.

### GRADUATE STUDENT HOUSING

The University of Illinois maintains housing for single graduate students in two residence halls within walking distance of the campus. Each study room is furnished and connects with a complete bath shared with the residents of one or two other rooms. Single and double rooms are available. Cooking is not allowed in student rooms, but a contract for food service in nearby dining rooms can be arranged. Residence halls have lounge facilities, laundry rooms, and vending machines.

Students must be admitted before they can sign a housing contract. Priority in assignment is determined by the date that the completed contract is received. Students should make housing arrangements well before the term begins. For information, write to the Residence Hall Contracts Office, 200 Clark Hall, 1203 South Fourth Street, Champaign, IL 61820.

Married students and students with families can choose from one-bedroom (furnished) or two-bedroom (furnished or unfurnished) apartments. All units include a stove and a refrigerator. Convenient laundry facilities are available. For information, write to the Family Housing Office, 1841 Orchard Place, Urbana, IL 61801.

The Housing Information Office also maintains a current listing of privately owned apartments and rooms available in the community. Students seeking private housing are urged to visit the campus as early as possible, because all arrangements for this type of accommodation should be made in person. Anyone unfamiliar with standard leasing practices should ask a housing consultant for assistance. The Housing Information Office is located at 2 Turner Student Services Building, 610 East John Street, Champaign, IL 61820; (217) 333-1420.

The University of Illinois at Urbana-Champaign and the University residence halls are committed to a policy of nondiscrimination with respect to race, color, national origin, ancestry, religion, sex, marital status, sexual orientation, age, handicap, unfavorable discharge from the military, or status as a disabled veteran or veteran of the Vietnam era.

### UNIVERSITY POLICY ON NONDISCRIMINATION IN HOUSING

In the rental of housing that is University-owned or University-certified, or of uncertified housing (apartments, unsupervised rooming houses, etc.) that is listed with Certified Housing/Housing Information Office, the University of Illinois policy on nondiscrimination shall be followed. The University makes every effort to ensure that accepted listings include only those owners or managers who comply fully with its nondiscrimination housing policy.

If anyone has any reason to believe that an owner or manager of certified housing or any other listed housing has illegally discriminated against an individual, this information should be communicated directly to the Housing Discrimination Committee in care of 2 Turner Student Services Building, 610 East John Street, Champaign, IL 61820.

## RESEARCH AND INSTRUCTIONAL RESOURCES

The University of Illinois at Urbana-Champaign is a comprehensive graduate institution. A distinguished graduate faculty, outstanding research facilities, one of the top-ranked libraries in the nation, and superior computer facilities make the Urbana-Champaign campus a

stimulating environment for graduate study and research.

The following pages describe some of the facilities and resources available to graduate students and faculty in ten broad fields of graduate study—agriculture, applied life studies, commerce and business administration, communications, education, engineering, fine and applied arts, law, liberal arts and sciences, and veterinary medicine. The instructional and research programs of individual departments and of interdisciplinary and other graduate units are described in the Programs of Study section of this catalog.

## UNIVERSITY LIBRARY

The University Library's resources for advanced study and research are exceptional. It is the third largest academic collection in the nation, housing more than 8.2 million volumes. Its mission is to acquire, preserve, and provide access to the collected knowledge of the world.

The library system includes the Undergraduate Library and more than thirty-eight departmental libraries. Among the most important rare and special items are world-famous rare book and manuscript collections dealing with Milton, Shakespeare, Proust, H.G. Wells, Carl Sandburg, the international Olympic movement, and the history of science. A pioneer in library automation, the library now has one of the largest online public-access catalogs, serving a network of more than 800 public, private, and academic libraries in Illinois. It is also a leader in interlibrary loan within Illinois, due to a strongly developed, unique statewide resource-sharing network.

The Grainger Engineering Library Information Center, which opened to the public in March 1994, is the largest engineering library in the country. It houses the library's collection of more than 225,000 volumes and 3,400 serials covering the fields of aeronautical and astronautical engineering, civil engineering, computer science, general engineering, materials science, mechanical and industrial engineering, nuclear engineering, and theoretical and applied mechanics.

The University Library is the site of the Mortenson Center for International Library Programs, which brings librarians and others engaged in library-related materials from around the world to learn about the library and its activities, and to share knowledge and experience with the library staff. The goal is to strengthen ties among international libraries as a means to promote freer access to information worldwide.

## COMPUTING AND COMMUNICATIONS SERVICES OFFICE

The Computing and Communications Services Office (CCSO) on the Urbana-Champaign campus provides computer support for instructional and research programs as well as for communications services throughout the University. CCSO primarily supports the UNIX operating system running on IBM, CONVEX, and Sequent machines. These systems are interconnected and serve a network of remote facilities, open-access campus computer sites, networked workstations, graphics equipment, and office desktop systems, as well as dial-up access from office and residential locations. CCSO provides ongoing development and support of a campuswide network, called UIUCnet, based on optical fiber. Yearly campus funding continues the extension of UIUCnet to all major buildings and the construction of local area networks (LANs) within buildings.

Members of more than 100 University departments use CCSO facilities. The graduate curricula are heavily dependent on computing support, and a large percentage of thesis research requires some computer use. Approximately two-thirds of the use is related to graduate programs and research. Areas of strength include computer music, networked information management, and computer art/design, in addition to computer use in more quantitative disciplines.

Administration of computing facilities is guided by the principle that users should have easy access to computer support. Access to CCSO's systems is provided through formal allocations for courses and research and through free accounts for students, faculty, and staff to use electronic mail (e-mail) and access to network news and information. In addition to its own facilities, CCSO arranges access to other computing facilities within the University. CCSO also coordinates the UIUC Computer Training Center and video-conferencing services.

In order to provide easy access to computing resources, CCSO maintains public computer sites across the campus; these sites offer computer systems, software, and printing services. CCSO works with faculty, staff, and departments to provide software in support of many

classes in a wide range of curricula. CCSO public sites are located in the Illini Union, Illini Hall, the Digital Computer Lab, Everitt Lab, English Building, Lincoln Hall, Oregon Street Computer site, Psychology Building, CRH Snack Bar, and Commerce West. CCSO departmental sites are located in Turner Hall, Noyes Lab, the Psychology Building, and the Undergraduate Library.

The University owns a vast array of computer resources, including microcomputers, workstations, minicomputers, mainframes, and supercomputers. This equipment is networked by UIUCnet and departmental LANs, which deliver basic services—electronic mail, file transfer, access to remote networks, access to the library card catalog, a timely weather report, the online student/staff directory, a campus information server, and several commercial databases. Hardware components based on national standards are used, providing a firm basis from which to build a ubiquitous campus network.

CCSO offers a full complement of computer-related user services through a Resource Center located in the Digital Computer Laboratory, which also houses CCSO offices and mainframe operations. User services include consulting on mainframe systems, microcomputers, software packages, hardware, e-mail, and other uses of the campus network. Consulting is offered on both a walk-in and a phone-in basis. Computer training courses and seminars are taught by the staff. The Resource Center also provides demonstration systems on which users may try various software packages or may copy free public-domain software.

CCSO has developed several outreach projects to attempt to deliver quality computing services to all sections of the campus community. The Office of Computing and Communications for the Social Sciences (OCCSS), located in Lincoln Hall, is a joint effort between CCSO and the College of Liberal Arts and Sciences to provide support for teaching and research in the social sciences. Although focusing on the social sciences, this facility and its services are open to the general campus community. OCCSS provides statistical consulting, access to various data archives, and specialized assistance for members of the social sciences or humanities fields.

CCSO operates a Network Operations Center (NOC) to monitor and support the campus network. A Network Design Office (NDO) coordinates the connection of buildings to UIUCnet and assists the departments with LAN designs. Recognizing the distributed nature of campus computing, CCSO offers a Computer Consultant Support Program (CCSP) to provide training and supportive contracts for the human network of departmental computer consultants.

The long tradition of employing computing technology in research and teaching at Illinois has led to the strength of computing resources both within CCSO and across the campus.

## CIC TRAVELING SCHOLAR PROGRAM

The Committee on Institutional Cooperation (CIC), a consortium of the Big Ten universities and the University of Chicago, established the Traveling Scholar Program as part of its effort to increase cooperative use of its member institutions' resources. The program enables doctoral-level students to attend other CIC institutions in order to take advantage of special course offerings, laboratory facilities, or library collections. Visits of traveling scholars are limited to two semesters or three quarters. Traveling scholars register and pay regular fees at their home universities. Credit earned while in this program is automatically accepted by the home university.

Application forms are available from the Graduate College, University of Illinois at Urbana-Champaign, 202 Coble Hall, 801 South Wright Street, Champaign, IL 61820.

## INTERNATIONAL PROGRAMS AND STUDIES

The University of Illinois at Urbana-Champaign offers many opportunities for graduate students to pursue international studies both at home and abroad. Graduate study and research often form an integral part of University programs with foreign institutions. Research opportunities are available through many departments; the Graduate College; the Center for African Studies; the Center for East Asian and Pacific Studies; the Center for Latin American and Caribbean Studies; the Center for Russian and East European Studies; the Program in South and West Asian Studies; the Program in Arms Control, Disarmament, and International Security; and the Office of Women in International Development.



For full information on these opportunities, as well as other graduate study-abroad programs and a wide range of courses and seminars in international studies, write for the handbook *International Programs and Activities*, obtainable from International Programs and Studies, 303 International Studies Building, 910 South Fifth Street, Champaign, IL 61820, or contact the appropriate college or department.

In addition, overseas teaching opportunities are often available in music education, English as an international language, and some of the modern language departments. Interested students should consult the executive officer of the appropriate department or division.

### BECKMAN INSTITUTE FOR ADVANCED SCIENCE AND TECHNOLOGY

The Beckman Institute for Advanced Science and Technology is the largest and most ambitious university-based multidisciplinary research facility in the United States. It was founded on the premise that reducing the barriers between traditional scientific and technological disciplines can yield research advances that more conventional approaches cannot.

The building was made possible by a \$40 million gift—at the time, the largest ever presented to a public university—from UIUC alumnus Arnold O. Beckman, founder of Beckman Instruments, Inc., and his wife, Mabel M. Beckman. This gift was supplemented by \$10 million from the state of Illinois, which also provided the ongoing operating support for the facility. The research programs in the building are supported mainly by external funding from the federal government and from corporations and foundations.

The research conducted within the Beckman Institute is organized along two parallel lines examining living and nonliving systems of increasing complexity. One focus incorporates research in the areas of biology, behavior, and cognition. The other concentrates on the physical sciences, computation, and engineering. Research performed at the Beckman Institute focuses on three broadly defined main research themes: biological intelligence, human-computer interaction, and molecular and electronic nanostructures. The general goal of the biological intelligence research is to develop understanding of intelligent systems by studying the diverse ways in which neurally based systems become capable of intelligent behavior. Within this research theme, programs extend from biochemical, molecular-, and cellular-level studies of how neurons work, through integrative and computational neuroscience, to cognitive science, which seeks to understand how humans process sensory information and represent knowledge. The human-computer interaction research focuses on improving the ways a human operator interacts with a computer by studying not only the input-output techniques, but also the human factors. Within this research theme, programs range from artificial intelligence, robotics, computer vision, cognitive science, human perception and performance, to virtual reality environment experiments carried out in collaboration with the National Center for Supercomputing Applications. The general goal of the molecular and electronic nanostructures research is to develop new approaches to electronic devices. Research programs range from computational electronics, scanning tunnel microscopy including lithography and fabrication of semiconductor nanostructures, and photonics, to efforts to synthesize and characterize new materials including self-organized syntheses of inorganic, organic, and biochemical systems.

Twenty Beckman Institute research groups, composed of researchers from nearly two dozen UIUC departments as far-ranging as psychology, computer science, and biochemistry are investigating these and other areas. The building, with its more than 200 offices, specialized state-of-the-art laboratories and other facilities, and meeting areas for conferences, workshops, and casual interaction, provides an ideal environment for fostering collaborative research.

### BIOTECHNOLOGY CENTER

The Biotechnology Center, a special unit of the Graduate College, is an organization of more than 100 faculty members of the Urbana-Champaign campus from more than a dozen departments that have active research programs spanning a broad range of biotechnology research areas. The center supports an expanding industrial-affiliates program that promotes interaction between the faculty and scientists in industrial research settings.

The Biotechnology Center administers six centralized service facilities: the Genetic Engineering Facility, the Immunological Resources

Center, the Flow Cytometry Facility, the Fermentation Facility, the Transgenic Animal Facility, and the Center for Electron Microscopy. The Genetic Engineering Facility synthesizes peptides and DNA oligonucleotides and performs protein sequencing, DNA sequencing, and amino acid analysis for faculty members and for industrial affiliates. The Immunological Resource Center generates polyclonal and monoclonal antibody reagents and the Flow Cytometry Facility operates three state-of-the-art fluorescence-activated cell sorters. The flow cytometers are available to all faculty members and graduate students for use in conjunction with their research efforts. A full-time operator is available to run samples and to train staff members in the use of these sophisticated instruments. The Fermentation Facility is supervised by a trained chemical engineer who operates 20-, 30-, and 200-liter fermenters for the growth of large quantities of microorganisms. The Transgenic Animal Facility, jointly supported with the College of Agriculture, is available to help faculty members test gene constructs in transgenic mice. The Center for Electron Microscopy provides access to microscopes and ancillary equipment for use by faculty or students who can demonstrate prior experience or who successfully complete a short course of instruction. Service work can also be performed by center staff.

The Biotechnology Center supports interdisciplinary graduate courses and workshops in biotechnology and provides travel grants for graduate students and summer research fellowships for undergraduates depending on the availability of funds.

### PROGRAM FOR THE STUDY OF CULTURAL VALUES AND ETHICS

The Program for the Study of Cultural Values and Ethics is an interdisciplinary unit for the advancement of inquiry in the humanities, social sciences, and arts. The program serves to help faculty members support research, develop courses, and conduct conferences in areas that relate to the evolution, understanding, and implementation of cultural values and ethical systems. UIUC faculty members may apply to the institute and be appointed for terms of from one semester to three years for interdisciplinary activities relating to the study of cultural values and ethics. The program provides several research assistantships and fellowships to graduate students who wish to pursue research in these areas. Activities of the program also include seminars, short courses, and artistic projects. The program plans to publish lectures, books, articles, reports, and a journal.

### MICROELECTRONICS LABORATORY

The Microelectronics Laboratory building is one of the nation's largest and most sophisticated university-based facilities for III-V compound semiconductor research. University of Illinois faculty and students are using the building's state-of-the-art facilities and equipment to conduct research that may ultimately solve many of the problems facing the next generation of telecommunications and information-processing technology.

The 50,000 square foot building houses facilities and equipment for optoelectronic materials' growth, submicron device patterning and fabrication, high-speed optical and electrical measurements, and ultra-high-purity semiconductor characterization. Among the highlights of this building are its sixteen class 100 and class 1000 clean room laboratories for crystal growth and device processing and fabrication. Specific capabilities include molecular beam epitaxy (MBE), metal-organic chemical vapor (MOCVD), chemical beam epitaxy (CBE), electron and optical lithography, plasma-assisted deposition of oxides and nitrides, reactive ion etching, and plasma etching.

The building also houses the Center for Compound Semiconductor Microelectronics—one of twenty-one National Science Foundation Engineering Research Centers nationwide. The CCSM has three goals: develop the engineering science and technology base required to fabricate low-cost, high-performance optoelectronic integrated circuits and apply them in optical interconnect systems; educate engineers in this field; and transfer this technology to industry. Eight of the CCSM's nineteen research groups reside in the building.

Funded by the state of Illinois, the \$13.5 million building was the first university facility in the world to be built in accordance with the stringent H6 fire and safety codes applicable to semiconductor laboratories.

## NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS

The National Center for Supercomputing Applications (NCSA) was established in February 1985 with a National Science Foundation (NSF) grant, and opened to the national research community in January 1986. The Advanced Research Projects Agency, other federal agencies, corporate partners, the University of Illinois, and the state of Illinois supply additional funding. The center has provided high-performance computing and communications (HPCC) resources for over 7,500 users at more than 400 universities and corporations.

NSF placed the new national centers at major research universities to provide fertile ground for the multidisciplinary exchanges needed to create new fields in computational science. The University of Illinois at Urbana-Champaign founded an Interdisciplinary Research Center (IRC) within NCSA to focus this process. IRC, located in the Beckman Institute for Advanced Science and Technology, is a scientific program built around a comprehensive, integrated computational network that facilitates frontier research and the sharing of knowledge across disciplines. The IRC supports a variety of intellectual programs involving national visitors; staff research scientists; UIUC adjunct faculty; postdoctoral, graduate, and undergraduate students; computer scientists; and computer professionals.

NCSA does not directly fund research projects, but provides the environment in which they can be carried out effectively. The center is a training ground for graduate students working on IRC-affiliated projects. Training includes the use of supercomputers, workstations, and productivity software for research purposes. In addition, NCSA sponsors many educational activities, such as seminars and technology demonstrations, which are open to the entire University community.

NCSA's plan for meeting the computational requirements of its users is constantly re-evaluated in response to advances in technology as well as changes in federal funding policy. NCSA is phasing out traditional vector processing platforms and moving to scalable, shared memory platforms constructed from microprocessors. Scalable computers are modular, upgradeable, and binary compatible from desktop to supercomputer, making them a flexible alternative to traditional architectures. NCSA is deploying new scalable machines from leading computer corporations. Allocations on the NCSA systems are awarded by peer review. Graduate students can gain access through their advisers or through a group that has been allocated time on a system.

NCSA's visualization program, a major research and development effort at the center, adopts new technologies and develops new techniques to serve computational science. Virtual reality (VR), the latest step in visualization technology, surrounds the user with a synthetic environment that emulates reality. NCSA's VR Laboratory provides a resource where researchers can explore their data while experimenting with the latest equipment. The newest addition to NCSA's VR Laboratory is the CAVE, a collaborative project between NCSA and the University of Illinois at Chicago's Electronic Visualization Laboratory (EVL). In the CAVE, a virtual environment is displayed on multiple walls of a room using rear-projection monitors.

Software packages are supported at NCSA for most branches of science and engineering. In addition, the NCSA Software Development Group develops software tools for computational scientists and turns prototypes into products. Its highly successful communications package, NCSA Telnet, and its Internet browser, NCSA Mosaic™, are used worldwide.

To learn more about the programs, services, and facilities at the center, please call (217) 244-0072.

## CENTER FOR THE STUDY OF READING

The Center for the Study of Reading is a multidisciplinary community of researchers and scholars who conduct basic and applied research and engage in practical programs designed to produce a better understanding of how people learn to read, how they comprehend what they read, and how they can be taught to read.

Examples of continuing programs of basic research at the center include investigations of perceptual processes in reading and children's knowledge acquisition in the content areas.

The center disseminates its work to educators, researchers, and others interested in reading research and education through its Technical Reports series and through publications such as *Becoming a*

*Nation of Readers*, *10 Ways to Help Your Children Become Better Readers*, and *Beginning to Read: Thinking and Learning about Print*.

## CENTER FOR WRITING STUDIES

The Center for Writing Studies (CWS) facilitates research and promotes graduate study in the areas of rhetoric, written composition, language, and literacy. For graduate students pursuing M.A. or Ph.D. degrees in participating departments, the center offers a program leading to a specialization in writing and literacy research. Participating departments and programs include the Department of English, the Department of Speech Communication, the Division of English as an International Language, and the College of Education. Other campus units and programs with which faculty members are affiliated are the Beckman Institute, the Center for Advanced Study, the Center for the Study of Reading, the Institute for Communications Research, the Program for the Study of Cultural Values and Ethics, and the Unit for Criticism and Interpretive Theory.

The work of the center is focused around three principal areas: the historical, the theoretical, and the empirical study of writing. Specific interests include research in computers and composition studies, methods of rhetorical and functional language analysis, cognitive processes in message production, the development of language and literacy theory and policy, and problems in technical and scientific writing. Graduate training in scholarship and research is accompanied by an equally thorough preparation for teaching. CWS is also home to *Computers and Composition*, a journal for teachers of writing, and the *CCCC Bibliography of Composition and Rhetoric*.

## RESEARCH AND INSTRUCTIONAL RESOURCES WITHIN DISCIPLINARY COLLEGES

Although the Graduate College has oversight responsibility for graduate programs and degrees as well as for a number of research and service facilities, each of ten disciplinary colleges at the UIUC campus serves as an educational and administrative group composed of departments and other units. These are the Colleges of Agriculture, Applied Life Studies, Commerce and Business Administration, Communications, Education, Engineering, Fine and Applied Arts, Law, Liberal Arts and Sciences, and Veterinary Medicine. Other disciplinary units outside the colleges include the Institute of Aviation, the Institute for Environmental Studies, the Institute of Labor and Industrial Relations, the Graduate School of Library and Information Science, and the School of Social Work. Graduate students are an integral part of the research activities conducted in all of these units.

## AGRICULTURE

Within the College of Agriculture, the Agricultural Experiment Station coordinates the college's research program. Approximately 10,000 acres of college-owned farmland in all parts of Illinois are used for research. Approximately 400 active projects in the Agricultural Experiment Station are being conducted on campus and at the fifteen research centers throughout the state.

Because agricultural research often involves more than one field of study, much of it is conducted in cooperation with other colleges on the Urbana-Champaign campus, with the state surveys on campus (Geological, Natural History, and Water), with the U.S. Department of Agriculture, and with other agricultural colleges. Interdisciplinary research is encouraged in such special areas as crop and animal production and uses, environmental quality, pest management, the International Soybean Program (INTSOY), and food and nutrition.

Illinois education, agriculture, and agribusiness are in the forefront of world food production and development. In addition to course offerings with an international focus, research is conducted with the goal of assisting developing countries to expand their own food production and distribution. Faculty exchanges and cooperative research with foreign institutions and agencies offer opportunities for mutually beneficial programs. The Office of International Agriculture is responsible for the broad supervision of the college's international activity. Some major international interests include soybeans, maize, animal agriculture, and nutrition.

## APPLIED LIFE STUDIES

In addition to departmental research facilities within the College of Applied Life Studies, the Institute for Research on Human Development serves as an interdisciplinary research unit concerned with health and human development. The institute's work is directed toward understanding and promoting optimum health, human development, and performance. The institute has an established national reputation for its work in gerontology, motivation, psychopharmacology, performance assessment, and related areas. Its programs are characteristically undertaken in cooperation with other units such as the Division of Human Development and Family Studies, the Department of Community Health, and the Division of Rehabilitation Education.

## COMMERCE AND BUSINESS ADMINISTRATION

Several activities within the College of Commerce and Business Administration supplement the research efforts of the departments. The Office for Information Management is financed jointly by college and University funds and corporate donations. The major goal of the office is to coordinate the development of computer applications in the course curriculum, to equip, maintain, and supervise computer laboratories used for general student projects that simulate specialized business information system environments, and to provide a focal point for research-related information systems and their impact on management and its operations. The facilities and activities of the office permit the college to give students experience in state-of-the-art hardware and software in information systems.

The Executive-in-Residence Program, Visiting Executives Programs, and the Chief Financial Officer Lecture Series bring visiting business executives to the campus to present lectures and lead discussions with students and faculty on specific topics. The Bureau of Economic and Business Research provides and analyzes a variety of state and local economic data. The college has acquired several financial data files such as the Center for Research on Stock Prices (CRSP) and the Standard and Poor's Compustat Tapes. There are also economic data tapes, including those of the Data Resources and International Monetary Fund. The college is the depository for the Bureau of Economic Analysis tapes and diskettes.

The international orientation of many programs is another important aspect of the college's overall teaching and research program. Distinguished faculty members with international academic backgrounds have developed a number of special courses with an international focus. The Office of the Director of International Programs in the college provides overall assistance in the international field. The Center for International Education and Research in Accounting in the Department of Accountancy coordinates the research programs of distinguished visiting scholars and publishes an international accounting journal. The college has been involved in several overseas programs. Special international programs offered include the Policy Economics Program for people from developing countries, the fourteen-month Master of Science in Business Administration for International Managers, the Master of Science in International Accountancy with specializations in accounting and auditing, and the Master of Science in Finance with a specialization in International Finance (beginning June 1995).

The Office of Real Estate Research, funded by the State of Illinois Real Estate Recovery Fund, undertakes and fosters research related to real estate in Illinois, communicates the results of such research to the real estate industry, and promotes the ongoing development of real estate education.

Additional research offices have been created in the college: the Office of Public Utility Research; the Office of Accounting Research; the Office for Banking Research; the Program for Health Economics, Management, and Policy; the Center for International Business Education and Research; and the Office of Business Innovation and Entrepreneurship. Each of these offices promotes and coordinates research of faculty members in the college in these specific areas. In addition, each office provides a focal point for the college and its various constituencies to discuss and disseminate research results. These offices are funded by a combination of government and private-industry support.

The Survey Research Laboratory is widely used by faculty and students interested in survey work. The Behavioral Laboratories are used to perform behavioral experiments, and the computer is a major tool for hypothesis testing and programming.

## COMMUNICATIONS

In the College of Communications, the Institute of Communications Research, which administers the doctoral program in communications and the B.S. in media studies, is one of the oldest and most distinguished interdisciplinary research centers in the United States. Through its graduates, the institute has spawned many similar programs and institutes around the country. It conducts research and teaches in virtually all areas of communication but concentrates on cultural and media studies, the political economy of communications, information technology and policy, feminist and multicultural perspectives, media and politics, sociology of news, media ethics, international communications, the effects of mass communication, and the psychology and sociology of language. It provides students the opportunity to study and to conduct research with a faculty that combines such disciplines as political science, sociology, psychology, history, and linguistics with the professional fields of telecommunications, advertising, broadcasting, and journalism. Holdings in the Communications Library in Gregory Hall are widely regarded as among the best in the nation.

## EDUCATION

In addition to research conducted principally within academic departments, the following units, with specialized research interests, are supported by the college: the Bureau of Educational Research, the Center for the Study of Reading, the National Center for Research in Vocational Education, and the Secondary Transitional Intervention Effectiveness Institute. Most of these units offer assistantships or fellowships to qualified doctoral students.

## ENGINEERING

The College of Engineering was one of the original units of the University when it was founded in 1867. Recognized as a major international center of research and instructional excellence, the college has more than 400 faculty members and an academic support staff of 250 professionals. Eighteen faculty members have been named to the National Academy of Engineering, nine to the National Academy of Sciences, and eight to the American Academy of Arts and Sciences. In addition, about 200 distinguished faculty visitors from all over the world are in residence on campus at any one time, participating fully in the academic life of the college. The college's annual enrollment is 5,000 undergraduate and 2,300 graduate students. Each year, the college awards approximately 1,100 B.S. degrees, 500 M.S. degrees, and 200 Ph.D. degrees.

The mission of the College of Engineering is to meet society's needs through excellence in education, research, and service to the public. The educational program strives to instill in students the values, vision, and training necessary to develop excellent technical, leadership, and communication skills. Through classwork and extracurricular activities, the college promotes a philosophy that emphasizes professionalism and embraces lifelong learning.

The college pioneered an interdisciplinary approach to engineering instruction and research that has proven beneficial for the graduates of the program and for society. At the undergraduate level, this approach is demonstrated by the senior design project, which demands that the student concurrently apply technical skills, practical thinking, and communications and human relations skills. At the graduate level, most degrees earned are awarded to students whose research is supported within an interdisciplinary team.

The college recognizes teaching excellence and rewards outstanding teachers. The coveted Everett Award for Teaching Excellence is given annually to an outstanding faculty member. Many faculty members have also received awards for their instructional excellence from their departments, the campus, and industry.

Advising students is a responsibility shared by the entire faculty. Each year, the college recognizes the dedication of its top advisers by awarding them the prestigious Andersen Consulting Award for Excellence in Advising. Because the student body is large, the college has developed a strong, well-organized system for advising students. Upon entering a department, all undergraduate students are assigned to a senior staff member who serves as their faculty adviser. Each department also has a senior adviser, who is accessible to the students at any time and who acts as a liaison between the department and the college. At the college level, deans in the Office of Academic Programs help students make academic decisions, set career goals, resolve



academic and personal concerns, and find suitable career opportunities upon graduation. Shortly after being accepted for graduate studies, graduate students select their faculty adviser. Graduate students are guided through their thesis research and teaching activities by faculty members who work closely with them.

The college's research areas embrace the fundamental and the practical, addressing our society's need for solutions to today's problems and for new knowledge upon which tomorrow's achievements can be built. With separately budgeted research expenditures of more than \$80 million, the college places among the top engineering research programs nationally.

Students at all levels receive practical benefits from the strong research environment created by the college's well-funded research activities and programs. Students have access to state-of-the-art equipment in classrooms and laboratories, and they are educated by faculty members who are investigating and working with some of today's most exciting technology. Many of the research groups offer undergraduate students the opportunity to actively participate in research projects.

The college's teaching and research laboratories are up-to-date and remain so through a program of continuous renewal. With the support and counsel of its industrial sponsors, the college is able to maintain many state-of-the-art undergraduate laboratories. Modern classroom facilities, many equipped with the latest computer and multimedia technology, create a learning environment that enhances the educational experience.

The college has three major interdisciplinary research laboratories: the Coordinated Science Laboratory (CSL), the Materials Research Laboratory (MRL), and the Microelectronics Laboratory.

The Coordinated Science Laboratory provides an interdisciplinary research environment for faculty members and students from engineering and other disciplines. Research concentrates on such areas as semiconductor physics, semiconductor materials and devices, computer systems, communications, VLSI circuits, artificial intelligence, signal processing, supercomputing, and robotics.

The Materials Research Laboratory emphasizes multidisciplinary research basic to an understanding of the solid state of matter and is one of the country's outstanding facilities for electron microscopy and microanalysis of materials. The laboratory's four highly interdisciplinary research programs are supported by the U.S. Department of Energy and the National Science Foundation. They are metals and ceramics (DOE), solid-state sciences (DOE), materials science and engineering (NSF), and the Science and Technology Center for Superconductivity (NSF).

The Microelectronics Laboratory, which houses the National Science Foundation-sponsored Engineering Research Center for Compound Semiconductor Microelectronics, is a multidisciplinary facility for the investigation of new concepts in optical and electronic materials, devices, and systems based on gallium arsenide and other compound semiconductors. The laboratory includes special facilities for the development of artificially structured materials, submicron device fabrication, ultrahigh-speed optical and electrical measurements, and characterization of ultrahigh-purity semiconductors.

The Coordinated Science Laboratory and the Materials Research Laboratory cooperate in the operation of a multisystem molecular beam epitaxy facility called the EpiCenter. All three laboratories provide opportunities for researchers in industry and the University to collaborate on research projects.

Some unique research centers are part of the college. These include the Air Conditioning and Refrigeration Center, the Center for Computational Electronics, the Center for Laser-Aided Materials Processing, the Center for Reliable and High-Performance Computing, the Center for Supercomputing Research and Development, the Institute for Competitive Manufacturing, the Knowledge-Based Engineering Systems Research Laboratory, the Manufacturing Research Center, and the Science and Technology Center for Cement-Based Composite Materials. These programs address special interdisciplinary needs in nationally important technological areas. They share the common goal of providing superior research capabilities in the fundamental engineering sciences in collaboration with industrial and governmental laboratories, supporting graduate student education, and enhancing rapid technology transfer from University laboratories to industry and the classroom.

A vast array of computing resources is available to students and faculty members. The National Center for Supercomputing Applications—developer of the powerful Internet browser, NCSA Mosaic—is a University-based supercomputing facility and interdisciplinary

research center that makes available a range of supercomputer architectures. Vector multiprocessors include the four-processor CRAY Y-MP/464 and CRAY-2S/4-128 machines and the eight-processor CON-VEX C3880. The CONVEX C3880 is the centerpiece of the Numerical Laboratory, where scientific visualizations can be performed interactively in real time. Massively parallel computers are two versions of Thinking Machines' Connection Machine, the CM-2 (32/768 processors) and the CM-5 (512 SPARC chip-based nodes). At the Beckman Institute for Advanced Science and Technology, NCSA's Virtual Reality Laboratory allows users to enter a three-dimensional space, exploring data by being immersed in it. NCSA is now working with three other NSF supercomputer centers to form a National Computational Environment accessible anywhere on the national network.

The college is part of one of the most advanced campus networks in the nation. This network gives faculty members and students access to all central computing facilities and to regional and national networks. Shared by all undergraduate and graduate engineering students, the Engineering Workstations Laboratories are equipped with some of today's most advanced engineering workstations. Each workstation is a stand-alone computer with its own disk drive, memory and cpu, and file and resource sharing capabilities. The workstation platforms in the Engineering Workstations Laboratories are equipped with some of today's most advanced engineering workstations. Each workstation is a stand-alone computer with its own disk drive, memory and cpu, and file and resource sharing capabilities.

The state-of-the-art Grainger Engineering Library Information Center, completed in 1994, provides students, faculty, and the business community with an excellent environment for study, group collaborative projects, and casual reading. The Grainger Center houses 300,000 volumes of the University's 500,000-volume engineering collection; the collection is augmented by smaller collections in a number of departmental libraries. Its resources include a digital imaging laboratory, a computer and multimedia laboratory, instructional services laboratories, an information retrieval research laboratory, and high-tech classrooms. Using workstations located throughout the University's library system, patrons can access more than five million references to articles and journals.

## FINE AND APPLIED ARTS

The schools and departments in the College of Fine and Applied Arts have excellent facilities. These include the Krannert Center for the Performing Arts, the Krannert Art Museum, practice rooms, studios, laboratories, exhibition spaces, and specialized libraries.

The Krannert Center for the Performing Arts provides studio space for classes in theatre, dance, and music; students participate in many of the public performances in its four theatres as well as in other theatres on campus. Music students use the rehearsal rooms, studios, and auditoriums in Smith Music Hall and in the Music Building. The work of students receiving M.F.A. degrees in the School of Art and Design is exhibited in the Krannert Art Museum, which is connected to the Art and Design Building. Students in the School of Architecture exhibit their work in the Temple Buell Architecture Gallery.

Throughout the year, many visiting artists, performers, and speakers are brought to the campus by the college and its departments. Comprehensive libraries in art and architecture, city planning and landscape architecture, and music serve students and faculty.

## LIBERAL ARTS AND SCIENCES

Among the major resources and facilities for graduate students in the College of Liberal Arts and Sciences are libraries, museums, laboratories, clinical and training facilities, quantitative services, and interdisciplinary research efforts. A number of schools and departments in the college have superb departmental libraries conveniently located near the units. In particular, the libraries in chemistry, life sciences, and mathematics are exceptional. Some collections for the humanities and social sciences are outstanding, for example, the Slavic collection, the Asian Library, and the Map and Geography Library.

The Herbarium, administered by the School of Life Sciences, is the tenth largest herbarium at an American university. It is both a research and a teaching facility, and its staff serves the public by assisting in the identification of plants.

The Museum of Natural History has served graduate students and faculty members since the 1870s. A number of special collections, including reptiles, amphibians, mammals, and shells from all parts of



the world, are housed in the museum. Research specimens for advanced scientific study number more than 400,000.

Two collections of special note in the humanities are the American Center of the International Photographic Archive of Papyri and the Cinema Studies Film Archive.

The World Heritage Museum houses more than 25,000 artifacts that illustrate cultural achievements from prehistoric Europe; ancient Mesopotamia, Egypt, Greece, and Rome; northern Europe; Africa; Asia; and America. The museum's collections are heavily used by University classes in history, art history, classics, and anthropology for general tours and individual research projects.

The Department of Psychology operates the Psychological Services Center, which is the principal facility for training and research in clinical psychology. The Department of Speech and Hearing Science operates three clinics (speech, language, and hearing) to provide training for its students. The Department of Astronomy operates two observing facilities jointly with other institutions for research and training purposes: a one-meter optical telescope at Mt. Laguna in California (with San Diego State University), and a six-element millimeter-wavelength radio telescope array at Hat Creek in California (with the University of California at Berkeley and the University of Maryland). Observing time for students at other sites, including national observatories, may also be arranged through faculty supervisors.

All of the units in the life sciences, the physical sciences, psychology, and speech and hearing science have extensive laboratory facilities. There are also two outstanding laboratories in the humanities and social sciences: the Language Learning Laboratory and the Spatial Data Analysis Laboratory in the Department of Geography, described below.

Also of particular note are the facilities of the School of Chemical Sciences, which include molecular spectroscopy, mass spectroscopy, and laser spectroscopy laboratories; a radioisotope laboratory; a computer center; a microanalytical laboratory; hydrogenation and high-pressure facilities; and machine, electronic, electrical, and glass-blowing shops.

The Language Learning Laboratory (LLL), in addition to providing teaching facilities, promotes research in language learning and teaching. Advanced technological resources, including international video reception, audio, microcomputers, and television production facilities are available for the LLL.

The Writers' Workshop is a tutorial facility dedicated to the improvement of writing on campus at all levels. Administered by the Center for Writing Studies, the workshop offers writing assistance and advice to students enrolled in any course offered at the University. The workshop is staffed entirely by graduate students with expertise in writing, and graduate students working on theses and dissertations are among its most regular clients.

The Spatial Data Analysis Laboratory, which is administered by the Department of Geography, is responsible for developing and improving research and instruction related to the acquisition, analysis, and display of spatial data. Technical service facilities (including electronic coordinate digitizers, computer terminals, graphics terminals, and a remote sensing and air photo laboratory) are available.

Special computing resources are available in many departments in the college; in addition, all units on campus have access to the Computing and Communications Services Office (see page 6).

The Department of Statistics, through the Illinois Statistics Office (ISO), provides a consulting service to faculty members and graduate students from all areas of the University. The service provides assistance in design and analysis of various statistical projects.

Units in the College of Liberal Arts and Sciences participate in a number of campuswide interdisciplinary efforts, many of which are described elsewhere in this catalog. Some of the instructional units in the college are by nature interdisciplinary. The area studies centers (African Studies, East Asian and Pacific Studies, Latin American and Caribbean Studies, and Russian and East European Studies) are examples of these; their degree programs are described in the Programs of Study section. There are two other special units: the Unit for Cinema Studies and the Unit for Criticism and Interpretive Theory.

The Unit for Cinema Studies promotes and coordinates the critical and historical study of the cinema. Its membership represents several departments and reflects various critical and scholarly interests. The unit is also a resource center that promotes cinema teaching and scholarship through its growing archive of film materials and its editorial and analytical equipment for film study.

The Unit for Criticism and Interpretive Theory, an interdisciplinary program drawing upon fifteen humanities and social science departments, promotes a broad range of teaching, research, and related scholarly activities. For M.A. and Ph.D. degree students in participating departments, the unit offers a formal program leading to advanced certification in criticism and interpretive theory.

There are a number of other groups (some informal) of faculty and students working together on interdisciplinary studies. Examples of these are the Afro-American Academic and Research Program; the Program in Arms Control, Disarmament, and International Security; the Southwest Asia Studies Program; and the Women's Studies Program.

## VETERINARY MEDICINE

The graduate programs in the College of Veterinary Medicine emphasize research training involving animal health, pharmacology, infectious and metabolic diseases, pathology, toxicology, zoonotic diseases, reproductive physiology, public health, neurobiology, biotechnology, comparative medicine, and bone/cartilage studies. The college has new, modern clinical and basic sciences facilities for graduate study and research ranging from basic biotechnology to applied clinical and field studies under controlled confinement and natural environmental conditions. Major emphasis is being placed on graduate training in biotechnology. Interdisciplinary research is ongoing with other colleges on the Urbana-Champaign campus and at the Dixon Springs Agricultural Center in southern Illinois. The college's association with the Illinois State Department of Agriculture, Department of Public Health, and Department of Conservation provides opportunities to use field facilities for appropriate research projects.

## UNDERGRADUATE ADMISSION

### REQUIREMENTS AND PROCEDURES

Since the information in this two-year catalog is subject to change, prospective applicants should contact the Office of Admissions and Records at the address on the inside back cover for admission requirements and applications for a specific term. A complete listing of fields of study and their admission requirements is given in the booklet *Undergraduate Admissions Information*, available with application materials each September from the Office of Admissions and Records; Illinois high school students may obtain these materials from their high school counselors.

Admission counselors on campus in 177 Henry Administration Building are available for consultation on weekdays, excluding campus holidays, from 8:30 a.m. to noon and from 1:00 to 4:30 p.m. Appointments are recommended and can be made by calling (217) 333-0302. The Campus Visitors Center offers campus tours and informational sessions for prospective students and their families. (See Campus Visitors Center, page 2.) The Chicago Satellite Office, located at 815 West Van Buren in Chicago, also has counselors available for consultation. Appointments can be made by calling (312) 996-9158.

### UNDERGRADUATE STUDY OPPORTUNITIES

An undergraduate applicant to the University of Illinois at Urbana-Champaign may choose a field of interest from more than 150 programs of study. These programs are referred to throughout this catalog as majors, options, or curricula, and are explained in detail in the individual college sections found elsewhere in this catalog.

In addition to the specific degree programs offered by all colleges, the College of Liberal Arts and Sciences offers preprofessional education for the fields of advertising, dentistry, journalism, law, medical dietetics, medical laboratory sciences, medical record administration, medicine, nursing, occupational therapy, pharmacy, physical therapy, and veterinary medicine.

Teacher education curricula are available in the Colleges of Agriculture, Applied Life Studies, Education, Fine and Applied Arts, and Liberal Arts and Sciences.

### UNDERGRADUATE ENROLLMENT CONSIDERATIONS

The number of admissions to each undergraduate college and curriculum is carefully monitored to ensure that no more students are

enrolled than the faculty and facilities can support. Each prospective student applies for admission to one of the eight undergraduate colleges or the Institute of Aviation, and to only one curriculum within that college or institute.

Because admission is highly competitive, each applicant's initial choice of college and curriculum is important and should be carefully considered in consultation with counselors and parents. Due to the great interest in admission to all programs, there usually is not an opportunity for a student to ask for reconsideration of admission for an alternate program after an initial admission decision has been made.

A prospective student undecided about a major field of study in a particular college may wish to consider applying for admission to one of the curricula not requiring students to declare degree program majors until the end of the sophomore year. These are the core curriculum in the College of Agriculture, the unassigned curriculum in the College of Commerce and Business Administration, the general education curriculum in the College of Education, and the general curriculum in the College of Liberal Arts and Sciences.

A beginning freshman is required to remain in the college and the prescribed freshman program to which he or she has been admitted for at least two semesters of full-time study.

A transfer student is obligated to remain in the college and possibly, the curriculum to which he or she has been admitted for at least the first semester of enrollment. A student on campus who wishes to transfer to another college must meet the accepting college's admission requirements and compete for any available space. Due to enrollment controls, transfer to some programs is very competitive. For example, the College of Commerce and Business Administration and the College of Engineering will consider only transfer students with 60 hours of prerequisite course work.

The opportunity to enroll as a nondegree student is limited in the fall and spring semesters, and priority is given to University employees and residents of the community who wish to enroll in courses that are offered only at the University. There is no restriction on the number of nondegree students who may attend the summer session.

### **ADMISSION OR RETURNING DENIED BECAUSE OF MISCONDUCT**

The University reserves the right either to deny admission or return to any person because of previous misconduct that may substantially affect the interest of the University, or to admit or permit the return of such a person on an appropriate disciplinary status. The admission or return of such a person will not be approved or denied until his or her case has been heard by the appropriate disciplinary committee. This applies to persons not now enrolled in the University who might apply for admission or wish to return. A favorable action of the appropriate disciplinary committee does not abrogate the right of any dean or director to deny admission or return on the basis of scholarship.

### **UNDERGRADUATE ADMISSION CATEGORIES**

Applicants for undergraduate admission comprise the several categories that are defined in this section. A prospective applicant may then refer to the general requirements for admission and to the succeeding section most appropriate for his or her situation.

**Beginning Freshman.** A beginning freshman applicant is either one who applies for admission while attending high school, regardless of the amount of college credit earned, or one who has graduated from high school but completed fewer than 12 semester hours or 18 quarter hours of transferable college classroom credit by the desired term of entry. A high school midyear graduate planning to attend a collegiate institution before admission to the University of Illinois at Urbana-Champaign for the fall term should apply as a beginning freshman during his or her last fall term in high school; such an applicant is admitted primarily on the basis of high school credentials and an admission test score and may complete more than 12 semester hours of transferable college classroom credit at another institution before enrollment at the Urbana-Champaign campus.

**Transfer Applicant.** A transfer applicant is one who (1) has completed a minimum of 12 semester or 18 quarter hours of transferable college classroom credit by the desired term of entry, and (2) does not meet the definition of a beginning freshman or a readmission applicant.

**Returning Student.** A returning student is one who has previously registered on the campus as an undergraduate degree candidate and has not earned a degree.

**Second Bachelor's Degree Applicant.** A second bachelor's degree applicant is one who has earned a bachelor's degree and wishes to continue study for another bachelor's degree.

**Nondegree Applicant.** A nondegree applicant is one who wishes to take courses for credit, but either does not qualify for a degree program or does not intend to earn a degree from the Urbana-Champaign campus.

### **SPECIAL ADMISSIONS**

An applicant who is not otherwise eligible, and for whom evidence clearly establishes (1) qualifications to do satisfactory work and (2) extenuating circumstances judged worthy of special consideration, may have his or her application reviewed and may be admitted with the approval of the director of the Office of Admissions and Records and the dean of the college concerned.

For experimental and special programs that provide academic support services, space may be reserved for applicants of different qualifications, not to exceed 10 percent of the entering freshman class of the previous fall term.

Appeals for special consideration after denial of admission are generally unsuccessful since admission spaces usually have been filled by that time.

### **GENERAL REQUIREMENTS FOR ADMISSION**

The following general University policies are applicable to all undergraduate applicants at both the beginning freshman and transfer student levels.

To be eligible for consideration for admission, an applicant must meet certain requirements in terms of age, high school graduation, high school credits, college preparatory subject requirements, and competence in English.

**Age.** An applicant must be at least fifteen years of age by the time of desired enrollment.

**High School Graduation.** An applicant must be a graduate of a regionally accredited high school, a school in Illinois recognized by the state superintendent of education, or a school elsewhere with a rating equivalent to full recognition; graduates of other secondary schools and nongraduates of secondary schools may be admitted under the provisions for use of the General Educational Development Test.

**General Educational Development Test (GED).** The achievement of satisfactory scores on the General Educational Development Test is acceptable in lieu of graduation from an accredited high school. This test alone will not fulfill all of the college preparatory subject requirements.

A standard score of 35 on each of the five tests and an average standard score of 45 on all five tests are the minimum scores needed to provide the following high school credit: 9 semesters of English, 8 semesters of social studies, and 7 semesters of general science. This is a total of 24 semesters (12 units) of college preparatory subject matter and a total of 30 semesters (15 units) of high school credit. To be eligible to take these tests, applicants must be at least eighteen years of age or have been out of school for at least one year. Additional information is available upon request from the Office of Admissions and Records.

If to be used in lieu of high school graduation, General Educational Development Test scores should be sent by the testing center directly to the Office of Admissions and Records.

**High School Credits.** Applicants for admission to all curricula must present a total of at least 15 units of acceptable college preparatory schoolwork. Graduates of schools organized as three-year senior high schools, including grades ten, eleven, and twelve, must have at least 12 units in the senior high school. Credit earned prior to grade nine is acceptable if the transcript or credit, certified by the senior high school, shows the credit as high school credit from grade eight. A unit course of study in the secondary school is a course covering an academic year and including not less than the equivalent of 120 sixty-minute hours of classroom work. Two hours of work requiring little or no preparation outside the class are considered as the equivalent to one hour of prepared classroom work. Fractional units of the value less than one-

half are not accepted. Not less than 1 unit of work is accepted in a foreign language, elementary algebra, plane geometry, physics, chemistry, or biology. The required 15 units must include the following:

1. Four units of *English*, including studies in language, composition, and literature requiring practice in expository writing in all such work. Course work should emphasize reading, writing, speaking, and listening.
2. Three or three and one-half units of *mathematics*, including algebra, geometry, and advanced geometry; see the following table for those curricula requiring three and one-half units, including trigonometry. Applied business mathematics, pre-algebra, and computer courses are not acceptable. Algebra completed in grade eight will count as one unit of high school algebra.
3. Two units of *laboratory science*. Laboratory courses in biology, chemistry, or physics are preferred. Laboratory courses in astronomy and geology are also acceptable. General science is not acceptable.
4. Two units of any one *foreign language* (or completion of the second level) is required.
5. Two units of *social studies*. History and government are preferred. Additional acceptable social studies include anthropology, economics, geography, philosophy, political science, psychology, and sociology.
6. Two additional units of *flexible courses* drawn from any of the above five subject categories. Approved art, music, or vocational education courses may be counted in the flexible academic units category.

The subject pattern requirements are waived for transfer applicants who will have completed 30 or more semester hours of transferable college credit by the date of enrollment at the Urbana-Champaign campus.

A student who lacks a required high school subject may satisfy the requirement at either a community college or elsewhere prior to enrollment at the University. This information must be communicated on the application for admission. One semester in college is the equivalent of 2 semesters of high school course work.

Under extenuating circumstances, a specific subject requirement may be waived for otherwise well-qualified applicants. An applicant seeking a waiver of the subject pattern requirement should use the Background Statement section of the application to state the rationale for requesting such action.

#### Preparatory Subject Requirements in Units (Years) of Course Work

SUBJECT	YEARS OF COURSE WORK	EXPLANATORY NOTES
English	4	
Mathematics	3 or 3.5	3.5 units of mathematics including trigonometry are required in the following curricula: Agriculture: Agricultural engineering Commerce and Business Administration: all curricula Engineering: all curricula Fine and Applied Arts: Architectural studies Liberal Arts and Sciences: specialized curricula in biochemistry, chemical engineering, chemistry, geology, and physics
Social Studies	2	
Laboratory Science	2	
One foreign language	2	Fine and Applied Arts curricula, except architectural studies, allow the substitution of two units of any combination of art, music, or foreign language.
Flexible academic units	2	
Total academic units	15 or 15.5	

#### GUIDELINES FOR ACCEPTING COLLEGE CREDITS EARNED BY HIGH SCHOOL STUDENTS

1. A college course taken by a high school student at a high school or college and applied toward the UIUC high school subject pattern requirement (see above) will not be awarded credit at UIUC.
2. A college course taken by a high school student with a high school student population will not be awarded credit at UIUC (see item 4 below for possible course credit options).

3. A transferable college course taken by a high school student at a college or university and not applied toward the UIUC high school subject pattern requirement may be awarded credit at UIUC and the grade may be included in the transfer grade-point average. This includes concurrent enrollment course work taken at a college or university with a college student population and taught by a college faculty member.
4. College credit can be awarded to high school students by earning an acceptable score on: (1) Advanced Placement (AP) Program examinations administered nationally each May; (2) UIUC Departmental Proficiency Examinations offered in all University courses normally open to freshmen and sophomores; many examinations are offered each semester as part of the new student activities.

**Competence in English.** A minimum requirement for competence in English applies to all University students. Undergraduate applicants for admission may satisfy this minimum requirement by certifying that one of the following conditions has been fulfilled in a country where English is the primary language and in a school in which English is the primary language of instruction:

- Graduation with credit for 3 units, or the equivalent, of English from a secondary school;
- or successful completion of a minimum of two academic years of full-time study at the secondary school or collegiate level immediately prior to the proposed date of enrollment in the University.

For an applicant who does not meet one of the above conditions, evidence can be provided by achieving a satisfactory score on a test of competence in English. The test(s) to be used and the minimum score(s) shall be subject to approval by the University Committee on Admissions with the advice of the University's Technical Committee on Testing. This requirement may be waived upon agreement by the director of the Office of Admissions and Records and the dean of the college concerned if evidence of competence in English presented by the applicant clearly justifies such action.

#### ADDITIONAL ADMISSION REQUIREMENTS

A few colleges and curricula have admission requirements in addition to the regular academic standards. Instructions on how to fulfill these additional requirements are forwarded to students soon after their applications are received. *Students should be aware that additional time is required to process applications for admission to curricula with additional admission requirements. Students denied on the basis of additional admission requirements may find all admission spaces filled in alternative programs at the time of notification. Thus, such applicants should apply early and may also wish to apply to other institutions.* The following chart indicates the colleges and curricula with additional admission requirements.

COLLEGES AND CURRICULA	SPECIAL REQUIREMENTS
AGRICULTURE	Professional interest statement
AVIATION	Professional interest statement
COMMUNICATIONS	Additional background information
EDUCATION	
Teaching of moderately and severely handicapped children	Additional background information
FINE AND APPLIED ARTS	
Dance	Qualifying audition
Graphic design	Portfolio review (transfer students)
Industrial design	Portfolio review (transfer students)
Music	Qualifying audition
Photography	Portfolio review (transfer students)
Theatre	Qualifying audition or interview

#### HEALTH REQUIREMENTS

##### PHYSICAL AND MENTAL HEALTH

New students may be required to present evidence of satisfactory physical and mental health to the director of health services. Each admitted applicant will receive a Student Health Report form, which he or she must use to report proof of immunity to certain vaccine-preventable diseases as defined by state law and required by University regulations, as well as any other pertinent medical data, to the director of the McKinley Health Center at Urbana-Champaign. A minor (someone under eighteen years of age at the time of registration) must submit the Student Health Report form with a parent's or guardian's written authorization for the student to receive treatment at the McKinley Health Center. A student who fails to return the completed Student Health Report form by the date shown on the form



and who fails to comply by the end of the first term of enrollment is prohibited by state law from subsequent enrollment in the University. Upon the advice of a McKinley Health Center physician, admission or readmission of a student may be denied until the student is cleared by the McKinley Health Center.

Students transferring from the University of Illinois at Chicago should request that their Student Health Report forms be transferred by the health center on that campus to the McKinley Health Center.

Military personnel may have their Student Health Report forms completed by a military physician.

#### TUBERCULOSIS CONTROL

New and readmitted students are encouraged to present evidence of freedom from tuberculosis at the McKinley Health Center. *All new international students are required to complete a tuberculosis screening at the McKinley Health Center before completing registration.*

Final evidence of freedom from tuberculosis is established by either a negative tuberculin skin test performed within the last twelve months by a health care provider in the United States, or a negative tuberculin skin test performed at the McKinley Health Center at Urbana-Champaign prior to registration.

A person who has a positive skin test is required to have a chest X-ray. A person with a known history of positive reaction to the tuberculosis skin test will not be retested, but will require a chest X-ray to show evidence of freedom from active tuberculosis. An individual who has had a chest X-ray performed within the previous twelve months will not require an additional chest X-ray if the previous chest X-ray is obtainable and meets the University's chest X-ray standards. A student with a positive skin test must schedule an appointment in the Tuberculosis Screening Clinic at McKinley Health Center to review his or her health history.

#### ADMISSION OF BEGINNING FRESHMEN

Dates for filing complete applications for admission are given in the following and other application calendars. Each deadline date applies as long as space remains available in the desired curriculum. Any applicant claiming exceptional circumstances that justify special consideration should appeal in writing to the director of admissions and records for an extension of filing deadline dates. Only rarely, however, are spaces available by these late dates, and applicants are encouraged to apply during the periods indicated in the application calendars.

#### REQUIREMENTS FOR ADMISSION

To assist prospective applicants in assessing their opportunities for admission, application guidelines based on previous years' admission decisions are published annually in the application materials. They are guidelines only. Final admission standards depend upon the number and qualifications of applicants to each program.

Admission decisions are based primarily on the following objective criteria: (a) the courses taken in high school and (b) a combination of high school rank in class and admission test score. Anyone approved for admission must have at least a one-in-two (50 percent) chance of achieving a 3.0 (C) average for one or more terms of the first academic year on the campus.

If the number of qualified applicants to a college or curriculum exceeds the admission quota, those best qualified will be admitted. "Best qualified" will be determined by a combination of high school rank in class and admission test score. In determining the admission of those applicants near the borderline of the competitive applicant pool, additional criteria may be considered. These additional factors are described in the Background Statement section that follows.

#### ADMISSION TEST INFORMATION

Each beginning freshman applicant, regardless of rank in class or length of time out of school, is required to submit an admission test score from either the American College Testing (ACT) program or the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. An applicant will not complete the admission requirements until the test score is received by the Office of Admissions and Records in the form of an official score report sent directly from the testing agency concerned. Complete information concerning the test, the dates of test administration, and the location of testing centers may be obtained from high school counselors or by writing to the appropriate testing agency: American College Testing, Box 168, Iowa City, Iowa 52240, or College Board, 45 Columbus Avenue, New York, New York 10023-6917.

A prospective applicant is urged to complete an admission test in the spring of his or her junior year in high school.

#### BACKGROUND STATEMENT

Objective academic qualifications will be the major factors considered in admission decisions. In addition, the Office of Admissions and Records also attempts to identify those applicants whose class ranks and admission test scores or transfer grade-point averages may underpredict their likelihood of success, and those whose admission would add diversity to the educational and social environment of the campus.

An applicant who believes that his or her academic credentials do not adequately reflect his or her potential may complete the Background Statement on the application form. The applicant should be aware, however, that unless he or she is close to meeting the guidelines published for the college to which application is being made, the Background Statement may have little impact on the admission decision.

A student who attends a highly selective high school for which a profile may not be on file with the Office of Admissions and Records is urged to have a counselor attach the school profile to the student's transcript and to request a review through the Background Statement.

Among the factors the Office of Admissions and Records may consider in making decisions are (1) extenuating circumstances that significantly affected, for a period of time, an otherwise exceptionally good academic record; (2) an economically disadvantaged environment; (3) an age group or a cultural or ethnic background that will add diversity to the campus; (4) completion of Advanced Placement or honors-level courses in high school; (5) significant work experiences related to the requested field of study; and (6) performance at a level that has brought state or national recognition in a specific field of endeavor.

#### APPLICATION DOCUMENTS

An applicant for admission as a freshman must submit the following (all credentials presented for admission or readmission become the permanent property of the University, are not subsequently released to the student or to another individual or institution, and are not held for reconsideration of admission to subsequent terms):

- A completed admission application form. Admission application forms are available from high school counselors and from the Office of Admissions and Records at the address on the inside back cover. High school students should submit applications through their high schools.
- A \$30 (\$40 for international students) check or money order (amount subject to change), payable to the University of Illinois, in payment of the nonrefundable application processing fee. The University is not responsible for cash sent through the mail.
- An official high school transcript sent directly to the Office of Admissions and Records from the high school showing course work completed by the applicant, the date of graduation, and the size of the graduating class and the applicant's numerical rank. (Since it is the policy of the University to accept for admission the academically best qualified of applicants competing for limited spaces, the University needs an objective measure of the applicant's academic qualification that is comparable to measures used by other high schools. Descriptive statements are generally not comparable from school to school and probably will work to the applicant's disadvantage unless accompanied by a numerical class rank. Therefore, high school personnel are urged to provide a numerical class ranking. Students from three-year senior high schools should request that certification of work taken in the ninth grade be included on or with the transcript. Eighth-grade work for high school credit also should be included.)
- An official admission test score report (ACT or SAT) sent directly to the Office of Admissions and Records from the testing agency.
- A transcript of any college-level course work completed by the freshman applicant sent directly from the collegiate institution attended.

**Application Calendar: Freshman Applicants**

FILING PERIOD	Applicants:	NOTIFICATION TIME
Spring Freshman September 25- November 1	Contact the Office of Admissions and Records for openings.	December
November 1- January 1	Applications taken on a space-available basis.	Approximately four weeks after filing
Fall Freshman Applicants: October 1- January 1	Applications for all colleges will be considered during this period if all required credentials have been received. Applicants will be informed on a decision about their application as follows: a. Admit—Competitively eligible applicants will be notified on an ongoing basis beginning in late December. b. Denial—Denied applicants will be notified as soon as decisions are made in order to allow them to pursue alternatives.	December-February
	Applicants with qualifications somewhat above or below the guidelines will require a longer period of time for review.	Mid-February
November 15	<b>Priority Filing Date</b> — Applications completed by this date may have the advantage when space is limited and applicants with equal qualifications are being reviewed.	December-February
January-July	Contact the Office of Admissions and Records to determine whether the desired academic program is accepting applications.	

**ADMISSION OF TRANSFER APPLICANTS****TRANSFER STUDENTS FROM THE UNIVERSITY OF ILLINOIS AT CHICAGO**

Undergraduate transfer students between the University of Illinois at Chicago and the Urbana-Champaign campus may be admitted to undergraduate programs on the other campus for which spaces are available for transfers from other colleges and universities, provided that they meet the requirements of the desired programs at the other campus for admission of on-campus transfers. Generally, admission opportunities are better in all curricula if applicants have junior standing (60 semester hours or 90 quarter hours). To be ensured consideration as intercampus transfers by the Urbana-Champaign campus, students currently enrolled at the Chicago campus should apply for transfer consideration for the spring term between September 25 and November 1, and for the summer or fall term between February 1 and March 15.

Applicants to the Urbana-Champaign campus are encouraged to go to the Chicago Office of Admissions and Records, where copies of official credentials will be enclosed with their application and where current enrollment can be verified to permit waiving of the application fee.

**TRANSFER APPLICANTS PREVIOUSLY DROPPED OR PLACED ON PROBATION FOR DISCIPLINARY REASONS**

A petition for admission of a transfer student who either is on disciplinary probation or has been dropped from another collegiate institution for disciplinary reasons must be approved by the appropriate subcommittee of the Senate Committee on Student Discipline.

**REQUIREMENTS FOR ADMISSION**

To assist prospective applicants in assessing their opportunities for admission, transfer grade-point average guidelines are published in the *Undergraduate Admissions Information* booklet available with application materials each September from the Office of Admissions and Records. These are guidelines only, and the final standards will depend on the number and qualifications of the applicants to each program.

Admission of a transfer applicant is based on a combination of the hours and content of transferable credit and the transfer grade-point average. The minimum transfer grade-point average is 3.25 ( $C = 3.0$ ); most curricula require a higher grade-point average.

If the number of qualified applicants to a college or curriculum exceeds the admission quota, those best qualified will be admitted, and preference may be given to residents of Illinois. Lower-division transfer applicants may be restricted when campus space is limited.

Additional criteria may be considered in determining the admission of those applicants near the borderline of the competitive applicant pool; these additional factors are described in the Background Statement section on page 14. An applicant who has had a significant break in the pursuit of an education and can demonstrate an improved academic performance, or an applicant for whom relocation from the Urbana-Champaign community would present a major hardship, may wish to address such a factor in the Background Statement section of the application for admission.

Eligibility of a transfer applicant with fewer than 30 semester hours of graded transferable classroom credit is based on (1) high school percentile rank and ACT or SAT test score, and (2) grade-point average and content of transferable courses attempted.

**GRADE-POINT AVERAGES**

Grade-point averages are calculated on the basis of all transferable courses attempted for which grades are assigned and for which grade-point values can be determined. When a course is repeated, the grade-point average is computed using both grades and all hours for the course. Incomplete grades are accepted as defined by the initiating institution. Grades in other course work completed, such as technical courses similar in content and level to courses taught at the University of Illinois at Urbana-Champaign, may be used in the evaluation for admission upon request of the college to which a student seeks admission.

Since the grade-point average used to establish admission qualifications is based on all transferable course work attempted, applicants from institutions with "forgiveness" grading policies (those that may delete grades for course work failed and/or repeated) may find their opportunities limited to special admission (see page 12). If the applicants are admitted and subsequently register, transfer grade-point averages may not be recorded on their University of Illinois at Urbana-Champaign records since the grading policies of the transfer institutions and this campus are not comparable.

**ACCEPTANCE OF CREDIT FROM OTHER COLLEGIATE INSTITUTIONS**

Credit may be accepted for advanced standing from another accredited university or college. Accepted credit will be based on evaluation of the primary transcript of record of each institution attended. Duplicate credit will be counted in the grade-point average but excluded from hours earned. A student who has passed a course at the University of Illinois at Urbana-Champaign may not be given credit for the same course taken elsewhere.

**ACCEPTANCE OF TRADITIONAL TRANSFER CREDIT**

Admission of transfer students to the University of Illinois is based only on the transfer course work that is similar in nature, content, and level to that offered by the University of Illinois. Such courses are normally referred to as transfer or college-parallel work. Other course work completed, such as technical courses similar in content and level to courses taught at the University, will be used in evaluation for admission only upon the request of the dean of the college to which the student seeks admission.

Transfer credit, as defined, will be accepted at full value for admission purposes on transfer to the University of Illinois at Urbana-Champaign if earned at:

- Colleges and universities that offer degree programs comparable to programs offered by the University of Illinois and (1) are members of or hold Candidate for Accreditation status from the North Central Association of Colleges and Schools or another regional accrediting association, or (2) are accredited by another accrediting agency that is a member of the Council on Postsecondary Accreditation; or
- Illinois public community colleges that are neither members of nor holders of Candidate for Accreditation status from the North Central Association of Colleges and Schools, but that are approved and recognized by the Illinois Community College Board (ICCB)

for a period of time not to exceed five years from the date on which the college registers its first class after achieving ICCB recognition.

Certain colleges and universities do not meet the above specifications but have been assigned a status by the University Committee on Admissions that permits credit to be accepted on a provisional basis for admission purposes on transfer to the University of Illinois at Urbana-Champaign. Transfer credit, as defined, from such colleges and universities is accepted only on a deferred basis, to be validated by satisfactory completion of additional work in residence. Validation through satisfactory work in residence may be accomplished by earning at the University of Illinois at Urbana-Champaign, or another fully accredited college or university, at least a 3.0 (A = 5.0) grade-point average (higher if prescribed by the curriculum the student wishes to enter) in the first 12 to 30 semester (18 to 45 quarter) hours completed after transfer.

Credit transferred from an approved<sup>1</sup> community or junior college is limited only by the provision that the student must earn at least 60 semester or 90 quarter hours required for the degree at the University or at any other approved<sup>1</sup> four-year college or university after attaining junior standing, except that the student must meet the residence requirements that apply to all students for a degree from the University of Illinois at Urbana-Champaign. When a school or college within the University requires three years of preprofessional college credit for admission, at least the last 30 semester or 45 quarter hours must be taken in an approved<sup>1</sup> four-year collegiate institution.

1. Colleges and universities meeting one or more of the specifications as defined.

In all cases, the precise amount of transfer credit that is applicable toward a particular degree will be determined by the University college and department concerned.

#### ACCEPTANCE OF NONTRADITIONAL TRANSFER CREDIT

Acceptance of credit awarded on bases other than collegiate classroom experiences will be considered for transfer admission purposes as follows:

**Test credit for admission as transfer credit.** Students presenting test credit awarded elsewhere, or test scores for admission or transfer credit purposes, will have that credit evaluated against cutoff scores established for those examinations on the Urbana-Champaign campus. Official score reports should be submitted to the Office of Admissions and Records along with the application for admission to the University. A student presenting test credit for which (1) no Urbana-Champaign campus policy exists, or (2) campus cutoff scores indicate no credit will be awarded, may still be granted transfer credit if the student (1) is transferring at least 12 graded classroom semester hours of acceptable college-level graded classroom course work from the institution or single campus in a multicampus institution that awarded the credit by examination; and (2) has successfully completed advanced classroom course work at the institution awarding the test credit in a course that is acceptable under University of Illinois at Urbana-Champaign transfer credit policies and that can be considered as a sequential continuation of the material covered in the test.

After admission, students not awarded credit under this policy may attempt departmental proficiency examinations to receive credit in those areas in which they claim competence.

**Credit for military training.** The completion of six months or more of continuous active duty in the U.S. armed forces, including basic or recruit training, is accepted for advanced standing credit of 4 semester hours of basic military science on presentation of evidence along with an honorable discharge or transfer to the reserve component. Candidates for graduation who are still in military service are entitled to the same credit. Credit in military science may also be granted for other training completed in the service that is acceptable as the equivalent of Reserve Officers' Training Corps (ROTC) courses at the University of Illinois at Urbana-Champaign. Such credit may be used for admission purposes. Credit duplicating ROTC credit will not be awarded.

**Credit for education in the armed forces.** The U.S. Armed Forces Institute (USAFI) was an educational program that existed prior to May 1974. The University considers for advanced standing credit those USAFI courses of college level for which the student has passed the appropriate USAFI end-of-course examination. Marine Corps Institute courses also will be considered on the same basis. The University may consider for advance standing credit work completed

in the Air Force, Army, Coast Guard, Marine Corps, and Navy specialized and technical schools. Criteria to determine acceptability include the specific degree requirements of the program of application, similarity to courses on this campus, and recommendation of the American Council on Education in the *Guide to the Evaluation of Educational Experience in the Armed Services*.

All criteria are subject to the recommendations of the college to which the student seeks admission and the department that teaches similar course work.

Credit earned in the College Training Programs of the Air Force, Army, Marine Corps, and Navy, which functioned during World War II, is accepted on the same basis as other credit from the colleges and universities where such credit was completed.

**Credit earned in academic courses sponsored by noncollegiate organizations, such as business, industry, and labor, not recognized by the April 1977 Board of Trustees policy statement.** Credit earned in such courses is not normally accepted. Such credit may be evaluated for potential advanced standing in a specific degree program after admission and registration; this credit shall be subject to validation by proficiency examination or successful completion of advanced course work. Hours of this type of credit may be reduced from that shown by the originating agency. Criteria to determine acceptability for advanced standing include the specific degree requirements of the program of enrollment, similarity to courses on this campus, and recommendations of the American Council on Education in *The National Guide to Educational Credit for Training Programs*.

All criteria are subject to the recommendations of the college of enrollment and the department that offers similar courses.

**Credit for experiential learning.** Experiential learning credit is not accepted for transfer admission purposes. A student who believes himself or herself to be knowledgeable in a specific course may be granted credit through established proficiency procedures by the college of enrollment and the department offering a similar course after admission and registration.

#### APPLICATION DOCUMENTS

An applicant for admission as a transfer student must submit the following (all credentials presented for admission or readmission become the permanent property of the University, are not subsequently released to the student or to another individual or institution, and are not held for reconsideration of admission to subsequent terms):

- A completed admission application form. Admission application forms are available from the Office of Admissions and Records at the address on the inside back cover.
- A \$30 (\$40 for international students) check or money order (amount subject to change), payable to the University of Illinois, in payment of the nonrefundable application processing fee. The University is not responsible for cash sent through the mail. Direct transfer applicants from the University of Illinois at Chicago are exempt from payment of this fee.
- An official high school transcript received directly from the high school of graduation.
- Official transcripts of all college work attempted received directly from the institution(s) attended.
- ACT or SAT test score received directly from the testing company, and high school class rank received directly from the high school attended. These are required only if the transfer student has less than 30 semester hours of graded transferable classroom credit at the time of submission of the application.



**Application Calendar: Transfer Applicants**

FILED PERIOD		NOTIFICATION TIME
Spring Transfer Applicants: September 25- November 1	Contact the Office of Admissions and Records for openings.	December
November 1- January 1	Applications taken on a space-available basis.	Approximately four weeks after filing
Fall Transfer Applicants: February 1- March 15	Applications for all colleges will be considered during this period.	Mid-April
March 15- August 1	Applications taken on a space-available basis. Contact the Office of Admissions and Records for openings.	Admission decisions made monthly

**RETURNING STUDENTS**

A student whose authorized enrollment period has not expired needs only to enroll for a term in order to return to the Urbana-Champaign campus. A returning student must provide an official transcript directly to the Office of Admissions and Records from each collegiate institution at which course work was attempted since last attendance at the Urbana-Champaign campus. Returning students are assigned an earliest registration time, after which the student may access the U of I Direct course enrollment system to select classes for a term. Earliest registration times begin shortly after the midpoint in the semester prior to the desired term of enrollment.

A returning student has the same status as when the student left the campus and is authorized to return to the same college and curriculum in which the student was last enrolled. If a returning undergraduate wishes to change his/her college or curriculum, the student must contact the college of desired enrollment. A returning graduate student wishing to enroll in a different department must contact the new department for approval and then petition the Graduate College to authorize the change.

An encumbered student may enroll for courses but cannot complete registration until the encumbrance is cleared by the office that placed the encumbrance. Notification of student status appears on the U of I Direct system. The U of I Direct system displays the earliest registration time and date when the authorized enrollment period expires. Returning students who have forgotten their network password must contact the Office of Admissions and Records to obtain a new password.

A former student returning after the authorized enrollment period has expired must contact the dean of the college in which the student was last enrolled. The dean of the student's college can extend the authorized enrollment period to allow the student additional time to complete a degree. Each college has its own rules governing the return of students whose authorized enrollment period has expired.

Returning international students have an advising hold set by the Office of International Student Affairs. Returning international students must contact the International Student Affairs Office before starting the re-entry process.

**APPLICANTS FOR SECOND BACHELOR'S DEGREES**

A second bachelor's degree applicant must meet the same requirements for admission as a transfer applicant for the first degree. In addition, the applicant is required to submit a petition indicating the reasons for his or her choice of program and campus; this petition must be approved by the director of admissions and records and the dean of the college concerned. When space in a college or curriculum is inadequate, priority will be given to applicants seeking their first degrees.

**APPLICANTS FOR ADMISSION AS NONDEGREE STUDENTS**

Nondegree admission and enrollment are restricted to participants in special programs and to those with nondegree educational objectives that cannot be met at another institution. Permanent residents of the Champaign-Urbana area are given priority for nondegree admission. Nondegree applicants must choose one of two enrollment options:

Academic Year. Fall and spring semesters, with summers optional.

**Summer Session Attendance Only.** Enrollment not allowed for the fall or spring term; a separate application for admission is necessary to be considered for the academic year enrollment pattern (see page 19). An applicant holding a bachelor's degree who desires to take any 300-level course for graduate credit or any 400-level course must apply for graduate nondegree status, regardless of the level of other courses in which the applicant desires to enroll. A graduate applicant should complete the Application for Admission to the Graduate College and Application for Graduate Appointment form.

**NONDEGREE STUDENT REGULATIONS**

- Nondegree undergraduate students are assessed tuition at the upper-division rate.
- Enrollment is limited to part-time status (fewer than 12 credit hours of course work in any semester).
- Course enrollment requires the approval of the department offering the course and the college of enrollment at the beginning of each semester.
- Nondegree students may not advance enroll in classes or register by mail for fall and spring semesters.
- Registration for the fall or spring term is not permitted until the fourth day of classes. The late registration charge will be waived for undergraduate nondegree students registering during the fourth and fifth days of classes.
- Registration after the fifth day of classes requires the written approval of the dean of the college of enrollment.
- The college has the privilege of terminating a continuing nondegree student's enrollment before the student's registration for any term.
- The same grading system is applicable to both degree and nondegree students. Credit earned on nondegree status will not be applicable to a degree except by subsequent admission to degree status.
- To be considered for degree-status enrollment, nondegree-status students must reapply for admission.
- Nondegree students admitted to a college *for summer to continue in the fall* have the option of registering for summer and continuing in the fall, or registering initially for fall.

**APPLICATION DOCUMENTS**

An applicant for admission as a nondegree student must submit the following (all credentials presented for admission become the permanent property of the University, are not subsequently released to the student or to another individual or institution, and are not held for reconsideration of admission to subsequent terms):

- A completed application form (prospective undergraduate nondegree applicants should specifically request the Undergraduate Nondegree Admission Application).
- A \$30 (\$40 for international students) check or money order (amount subject to change), payable to the University of Illinois, in payment of the nonrefundable application processing fee. The University is not responsible for cash sent through the mail.
- A transcript showing the applicant's highest level of academic achievement, if the applicant for the academic year option has no prior credit at the University of Illinois at Urbana-Champaign.
- A transcript showing course work completed since last enrollment at the University of Illinois at Urbana-Champaign, if the applicant has prior credit on this campus.

**ADMISSION TO CORRESPONDENCE COURSES**

Correspondence courses are open to any applicant who can meet University entrance requirements and who is in good standing at the last school attended, and to any person eighteen years of age or older whose application is approved by the head of Guided Individual Study.

An application from a student who has been dropped from the University of Illinois or any other collegiate institution will be considered only upon the recommendation of the authorities of the campus or institution from which the student was dropped.

For further information, write to Guided Individual Study, University of Illinois at Urbana-Champaign, Suite 1406, 302 East John Street, Champaign, IL 61820.



## ADMISSION TO CLASSES AS A VISITOR

### ENROLLMENT GUIDELINES

Visitors are not permitted in laboratory, military, kinesiology (other than theory), or studio classes.

A former student not currently registered must obtain the approval of the dean of the college in which he or she was last registered. Former students are not permitted to attend classes as visitors while on dropped status.

A student enrolled at the Urbana-Champaign campus who desires to attend a class as a visitor must obtain the written permission of the instructor of the class and the approval of the dean of his or her college.

A person who has never been a registered student at the Urbana-Champaign campus must obtain the required approval from the dean of the college in which the course is offered.

For additional information, contact the Office of Admissions and Records at the address on the inside back cover.

### CHARGES

Persons not registered, or registered for less than a full program (fewer than 12 semester hours), are charged a \$15 (amount subject to change) visitor's fee for each course attended. The fee is waived for persons sixty-five years of age or older.

Persons registered for a full program (12 semester hours or more) may visit other courses without additional charges. Students holding scholarships, tuition waivers, or staff appointments generally may audit University courses without charge.

## ADMISSION OF INTERNATIONAL STUDENTS

The Office of Admissions and Records determines which students shall be classified as *foreign* (international) according to the following definition: A person who is a citizen or permanent resident alien of a country or political area other than the United States and has a residence outside the United States to which he or she expects to return and either is, or proposes to be, a temporary alien in the United States for educational purposes is classified as a foreign student. For admission purposes, refugees-parolees and conditional entrants are classified as foreign and shall meet all requirements imposed upon foreign students except for the certification of financial resources.

International undergraduate applicants are urged to submit admission applications and supporting documents approximately one year prior to the desired term of entry. Competition is extremely keen, and late applicants risk their chances for admission. Additional information and application materials are available from the Office of Admissions and Records at the address on the inside back cover.

### ADMISSION REQUIREMENTS

Admission is competitive, and preference is given to those applicants determined to have the best potential for academic success at the University of Illinois at Urbana-Champaign. The minimum requirements for admission are:

- Satisfaction of University minimum requirements in terms of age, high school graduation, high school courses, and health (see pages 13 and 14).
- Satisfaction of any additional requirements for admission (see page 13).
- Satisfaction of the University requirement of competence in English (see next section).
- Adequate financial resources (see Financial Verification Requirement section).

### ENGLISH COMPETENCE REQUIREMENT

Evidence of English proficiency is required of students who request consideration for admission. This evidence is provided by a satisfactory score on the Test of English as a Foreign Language (TOEFL). Undergraduate applicants are exempt from this test if they have fulfilled one of the following requirements in a country where English is the primary language and in a school in which English is the primary language of instruction:

- Graduation with credit for 3 units, or the equivalent, of English; or
- Successful completion of a minimum of two academic years of full-time study at the secondary school or collegiate level immediately prior to the proposed date of enrollment in the University.

The Test of English as a Foreign Language (TOEFL) is administered several times each year at many locations throughout the world. To make arrangements to take the test, write directly to the TOEFL Application Office, P.O. Box 6155, Princeton, NJ 08541-6155, U.S.A., or contact the nearest U.S. embassy or consulate, or U.S. Information Service office. Applicants who have already taken the test should request that the TOEFL office send their scores to the Office of Admissions and Records. For admission purposes, TOEFL scores are valid for only two years prior to the proposed term of entry. If the TOEFL score is acceptable but indicates the need for further English study, a placement test will be required upon arrival at the University. On the basis of the placement test scores, students may be required to enroll in noncredit English courses and to take reduced academic loads.

In cases in which TOEFL testing dates are not available prior to the desired term of entry, the University will arrange for substitution of the Michigan English Language Assessment Battery (MELAB) test given by the English Language Institute Testing and Certification Division at the University of Michigan. Complete instructions to arrange for the MELAB examination will be provided by the Office of Admissions and Records to each applicant for whom the test is required. Final admission status is determined after the test results have been received.

The current minimum cutoff scores are 550 on the TOEFL and 83 on the MELAB. The English requirement for graduation is explained on page 38.

### FINANCIAL VERIFICATION REQUIREMENT

In order to qualify for a Certificate of Visa Eligibility (Form I-20 or IAP-66), a foreign (international) applicant must submit complete and accurate information regarding his or her source of financial support. This information is in compliance with regulations of the U.S. Immigration and Naturalization Service. Current information and certification also are required of foreign applicants transferring from institutions within the United States. Financial resources must be documented for the entire length of time required to earn a degree. Expenses for the 1994-95 academic year were estimated at \$18,164, excluding summer session tuition and fees. This figure is subject to increase without notice and is presented here for planning purposes. Current estimated expenses may be obtained by writing to the Office of Admissions and Records.

Prospective students who cannot document the availability of sufficient resources will be denied admission.

University financial aid funds are extremely limited and are available only to participants in specific exchange programs. Individual requests for financial aid cannot be considered.

### APPLICATION DOCUMENTS

An international applicant for admission must submit the following (all credentials presented for admission or readmission become the permanent property of the University and are not subsequently released to the student or to another individual or institution:

- An Application for Undergraduate Admission for Applicants from Other Countries.
- A \$40 (U.S.) nonrefundable application processing fee (amount subject to change) in the form of a check or money order payable to the University of Illinois. The University is not responsible for cash sent through the mail. The check must indicate that the bank has an affiliated bank in the United States.
- Official records for the last four years of secondary school study and/or any postsecondary or university-level work completed or attempted.

All records must list subjects taken, grades earned, or examination results (including those passed or failed in each subject), and all diplomas and certificates awarded. Official translations must accompany these records if they are in a language other than English. All credentials must be certified by an officer of the educational institution attended or by the U.S. embassy or consulate. An applicant attending a U.S. or Canadian school should have credentials submitted directly by the school. Notarized copies of credentials do not fulfill official document requirements.

A list of all courses in progress, including recently completed course work that is not listed on the transcript, must also be included on the application. When possible, an applicant must have a school official provide a statement of the applicant's rank in class. This

statement should indicate the applicant's performance relative to the performance of other members of the secondary or postsecondary school class. Applicants to some fields may be required to submit additional materials, such as background information and aptitude test results, or to participate in auditions. These items will be requested by the Office of Admissions and Records when needed and will be required only for applicants satisfying all other admission criteria.

- The results of the Test of English as a Foreign Language (TOEFL) or the Michigan English Language Assessment Battery (MELAB) test, if required, as indicated above.
- Declaration and certification of finances as required of all international applicants.

#### **Application Calendar: International Applicants**

FILING PERIOD		NOTIFICATION TIME
Spring Applicants:		
Mid-September- November 1	Contact the International Admissions Office for openings.	Decisions made and announced in order received.
Summer and Fall Applicants:		
Mid-September- November 15	For freshmen.	Decisions made and announced in order received.
January-March 1	For transfers.	Decisions made and announced in order received.

### **ADMISSION TO SUMMER SESSION**

#### **ADMISSION PROCEDURES**

The procedure for admission of an undergraduate student to the summer session varies according to the previous status of the student.

Students who have been approved for admission in the fall semester will be authorized to begin in the immediately preceding summer session if they notify the Office of Admissions and Records of their intent to enroll in the summer session.

#### **PREVIOUS STATUS**

Completed immediately preceding semester; eligible to continue.

Dropped for academic reasons at end of spring semester; desire nondegree summer session only.

Dropped for academic reasons at end of spring semester; seek reinstatement to same or different college for summer.

Last campus enrollment was preceding fall semester or earlier.

#### **ACTION REQUIRED**

Application not required; registration materials produced automatically.

Do not apply for admission; seek release by former college to dean of summer session for approval.

Do not apply for admission; petition dean of desired college for reinstatement.

Must apply for admission.

#### **ADMISSION OF CANDIDATES FOR DEGREES**

Freshman or transfer applicants who wish to be admitted to the summer session and to continue as degree candidates in the fall semester must meet the same admission requirements as students applying for the fall semester. Such applicants should indicate on their application forms that they are applying for admission in June to continue in the fall. Detailed admission requirements and application procedures for undergraduates are contained in the application packet available each September.

Applicants for *summer to continue in the fall* should be aware that fall term admission spaces have been filled in most academic programs long in advance of summer session application deadlines. Information on programs open for admission can be obtained from the Office of Admissions and Records throughout the academic year.

#### **ADMISSION OF SUMMER SESSION NONDEGREE STUDENTS**

Approval of admission or return as a nondegree student to the summer session only does not allow enrollment in the fall or spring. A student who was admitted to the summer session only as a nondegree student and who later wishes to enter one of the colleges of the University as a degree or nondegree student must apply for admission in the usual manner and satisfy requirements in effect at the time of application. A person admitted as a nondegree undergraduate stu-

dent to the summer session only is not assigned to any college or curriculum.

Undergraduate nondegree applications for admission to the summer session only may be approved by the director of the Office of Admissions and Records under the following conditions:

- High school graduates who qualified for admission under minimum rank and test score combination requirements, but who were not admitted under competitive rank and test score combination requirements in effect for the fall semester, may be admitted as nondegree students for the summer session only. (These minimum rank and test score requirements, known as campus minimums, are available from the Office of Admissions and Records the September preceding the summer term for which admission is sought.)
- Former University of Illinois at Urbana-Champaign students who have not graduated from the University may be admitted as nondegree candidates if approved by the director of the Office of Admissions and Records through release from their former colleges. Students on drop or probationary status must petition the Summer Session Office for admission as nondegree candidates. If approved, they will be admitted on probation for that single summer session only.
- An undergraduate student enrolled in another institution may enroll in the summer session as a nondegree candidate if the student is eligible to return to the collegiate institution last attended.
- Any person eighteen years of age or older who has never attended a collegiate institution, but who gives evidence that he or she possesses the requisite background and ability to pursue profitably courses for which he or she is qualified, may enroll in the summer session as a nondegree candidate.

#### **APPLICATION DOCUMENTS**

An applicant for admission to summer session as a nondegree student must submit the following (all credentials presented for admission or readmission become the permanent property of the University, are not subsequently released to the student or to another individual or institution, and are not held for reconsideration of admission to subsequent terms):

- A completed admission application form. This form is available from the Office of Admissions and Records at the address on the inside back cover.
- A \$30 (\$40 for international students) check or money order (amount subject to change) payable to the University of Illinois, in payment of the nonrefundable application processing fee. The University is not responsible for cash sent through the mail.
- A list of the specific course work desired.
- Additional documents required of certain applicants, as follows:

A high school graduate (see first category under Admission of Summer Session Nondegree Students, above) may be required to submit (1) an official high school transcript received from the high school showing rank in graduating class, and (2) an official report of the admission test score (ACT or SAT) sent directly to the Office of Admissions and Records from the testing agency concerned.

A teacher may be requested to submit a statement verifying his or her employment.

A student enrolled at another collegiate institution may be requested to submit a statement of eligibility to return to the institution attended.

### **STUDENT COSTS**

#### **STUDENT EXPENSES**

Tuition, fees, and housing charges for the 1995-96 and 1996-97 academic years were not available when this catalog was published. An undergraduate student budget for the 1994-95 academic year is shown in the table below. Although student expenses are expected to increase, this budget can be used for planning purposes.

Information about tuition and fee charges for a current academic term, including charges for flight instruction and special programs, waivers and exemptions, and refunds, is available from the Registration Services Office, Window 25, 100 Henry Administration Building, (217) 333-0210.

### Estimated Undergraduate Student Expenses for the 1994-95 Academic Year

(Average expenses for single, undergraduate students are shown below. This budget covers a full program of study for two semesters exclusive of such items as recreation and major articles of clothing.<sup>†</sup>)

Illinois residents	Nonresidents	
\$2,760	\$7,560	Tuition (freshmen and sophomores)*
948	948	Fees
500	500	Textbooks and other school supplies
4,260	4,260	Meals and housing (includes double room and board [14 meals per week] residence hall charges of \$4,244 and \$16 Residence Hall Association dues)**
400	400	Travel allowance to and from home***
1,582	1,582	Personal expenses (includes Sunday evening and other nonprovided meals and miscellaneous expenses at moderate level)
\$10,450	\$15,250	Total: Two semesters

\*Tuition is assessed on the basis of college and, in some cases, curriculum of enrollment, residency classification, and credit range for which they registered. Students enrolled in specific curricula in various colleges are assessed a tuition differential.

\*\*A contract with 20 meals per week is available for an additional \$314.

\*\*\*An additional \$310 travel allowance must be provided for student from states not adjacent to Illinois.

### REGISTRATION AGREEMENT

U of I Direct is the system that allows students to register for courses by computer. Students who register for courses agree to pay tuition and fees to the University according to the payment policies and schedules adopted by the Board of Trustees. If a student wishes to cancel registration, and thus avoid payment of tuition and fee charges, the student must do so by 5:00 p.m. of the first day of instruction.

Unauthorized use of University of Illinois computerized systems, data, or resources; unauthorized use of another individual's identification, account, or password; or an attempt to gain unauthorized access is prohibited by University policy and may constitute a violation of Illinois state law.

### TUITION AND FEES

Tuition and fees for undergraduate students who were enrolled on campus in fall 1994 are shown in the 1994-95 Semester Tuition and Fee Schedule, page 22. Charges are assessed on the basis of the student's college (undergraduate, graduate, or professional) and in some cases, curriculum of enrollment; classification as resident or nonresident of Illinois; and credit ranges as determined by the total number of semester hours or graduate units for which the student is registered.

Undergraduate credit is counted in semester hours. Credit for graduate work is counted in units. For fee assessment purposes, 1 unit equals 4 semester hours. A full-time undergraduate student is one who is registered for 12 or more semester hours of credit.

The Service Fee supports operation of certain campus facilities such as the Illini Union, Turner Student Services Building, Assembly Hall, and the Intramural Physical Education Building. The Health Insurance Fee covers the cost of the University Student Health Insurance Program that provides worldwide hospital, medical, and surgical insurance coverage. The Health Service Fee provides health care and limited prescription service at the campus McKinley Health Center and helps support the Counseling Center. The General Fee supports certain fixed costs of campus fee-supported buildings such as the Assembly Hall and the Illini Union. The Transportation Fee finances a campus and community busing plan for students.

Students are also assessed:

- \$4 each semester for SEAL (Students for Equal Access to Learning) to supplement existing financial aid for needy students. A refund is available upon request during the seventh week of instruction in a semester for students not desiring to participate.
- \$5 each semester and summer session for SORF (Student Organization Resource Fee) to help support the Student Legal Service and

the programs and services of registered student organizations. Refunds are available upon request during the sixth week of instruction in a semester and summer session.

- \$1 each semester to support the Student Government Association (SGA).
- \$5 each semester and \$3 for the summer session to support productions at the Krannert Center for the Performing Arts (KCPA). Refunds are available upon request during the fifth week of instruction for fall and spring. No refunds are available during the summer session.

Students enrolling at less than one-half time (less than 6 hours or 1½ units) are not assessed the service fee; the McKinley Health Center fee; the transportation fee; the KCPA fee; or the SEAL, SORF, or SGA fee and are not eligible to use the services supported by these fees. Such students may elect to purchase one or more of the services directly from the provider.

### LATE REGISTRATION

Students who register after the first day of instruction in any semester, including University staff and persons who submitted admission applications too late to be processed before the first day of instruction, must pay a Late Registration Fine of \$15 (amount subject to change). (This fine is not covered by scholarships or tuition waivers. It may be waived under exceptional circumstances upon petition to the director of the Office of Admissions and Records. The petition form is available from the Registration Services Office, Window 25, 100 Henry Administration Building.)

### FLIGHT TRAINING COURSES

In addition to the regular tuition and fees, students taking flight training pay:

\$2,079	AVI 101—Private Pilot, I
1,828	AVI 102—Orientation Refresher
2,664	AVI 120—Private Pilot, II
1,404	AVI 121—Private Pilot, IIA
2,342	AVI 130—Commercial-Instrument, I
2,482	AVI 140—Commercial-Instrument, II
1,427	AVI 200—Commercial-Instrument, III
2,621	AVI 210—Commercial-Instrument, IV
4,364	AVI 211—Commercial-Instrument, V
2,097	AVI 220—Flight Instructor
1,234	AVI 222—Instrument Flight Instructor
1,243	AVI 224—All Altitude Orientation
2,361	AVI 280—Special Rating (Multiengine Land)
1,812	AVI 291—Special Ratings and/or Specialized Flight
943	AVI 292—Professional Multiengine Indocination
697	AVI 293—Corporate-Jet Pilot Orientation

(These fees for 1994-95 are subject to change and are not covered by scholarships or tuition and fee waivers.)

### RESIDENCE CLASSIFICATION FOR ADMISSION AND TUITION ASSESSMENT

The residence classification of applicants for admission is determined on the basis of the information given on their applications and other credentials. Eligibility for admission to the University is determined and tuition is assessed in accordance with this decision.

Persons who take exception to the residence status assigned to them should refer to Appendix B.

### PAYMENT REQUIREMENT

Tuition and fees assessed for any semester, term, or summer session are due and payable in full by the deadline indicated on the Registration Statement of Charges and Aid. The privilege of paying these charges by installment may be granted by the Office of Student Accounts and Cashiering (see next section). Students who do not make full or first installment payment by the scheduled due date shown on the statement will be assessed a \$25 (amount subject to change) charge for late registration payment, which will be billed to their student accounts.

A delinquent service charge of 1.5 percent per month, or \$2 per month, whichever is greater, is added to delinquent student accounts. The delinquent service charge is applied to all items charged to the student account and for which payment is delinquent.



## INSTALLMENT PLAN FOR PAYING TUITION, FEES, AND HOUSING CHARGES

Students enrolled on campus may pay tuition and fees, single-student residence hall charges, and flight instruction fees on an installment plan. This plan is not available to students registered in extramural, correspondence, and four-week summer term courses, or to students for whom this privilege has been denied.

Under the installment plan, semester charges are collected in three installments. The first is payable during the first ten days of instruction, and the remaining ones are payable in each of the two following months. Approximately one-half of the summer eight-week term charges must be paid during the first seven days of instruction with the remainder due during the following month. There is a finance charge of 1 percent of the total amount deferred, or \$2, whichever is greater, when charges are paid in installments (amount subject to change).

Students who pay their accounts on the installment plan and later withdraw from the University, or reduce their registration to a lower credit range after the established refund deadline date, are liable for the full amount of tuition and fees assessed.

Installment payments are delinquent on the first day of the month after the date that payment is due. A delinquent service charge of 1.5 percent per month, or \$2 per month, whichever is greater, is added to delinquent accounts (amount subject to change). The delinquent service charge is applied to all items charged to the student account and for which payment is delinquent.

Students who are in debt to the University at the end of any academic term may not be permitted to register in the University again. They are not entitled to receive diplomas or official statements or transcripts of credits until either the indebtedness has been paid or suitable arrangements for payment have been made, unless either there is a pending bankruptcy petition of the student seeking a discharge of all such indebtedness or all such indebtedness has been discharged.

## REFUNDS

### CANCELLATION OF REGISTRATION

Individuals who have placed courses on their record prior to the beginning of the term and later decide not to attend the University may cancel their registration by 5:00 p.m. of the first day of instruction for the term and avoid all tuition and fee charges. Individuals who are ineligible to continue in the University for actions initiated by the University based on academic, disciplinary, or medical reasons before 5:00 p.m. on the first day of instruction for the term have their registrations become void and are not entitled to student privileges.

If a written request to cancel registration is received in the Office of Admissions and Records by 5:00 p.m. on the first day of instruction, a student's registration agreement will be cancelled and tuition and fees will not be charged.

Students may not cancel their registration once they have used fee-supported services. If they leave the University, they must officially withdraw from the University.

### WITHDRAWAL FROM THE UNIVERSITY

Students who have been charged tuition and/or fees and later withdraw from the University prior to the completion of 60 percent of the term receive a refund on a pro rata basis. Assessed tuition, the service fee, the general fee, and the transportation fee are refunded on a pro rata basis less 5 percent of the assessed amount or \$100, whichever is less. The health insurance and health services fees are nonrefundable. Students continue to be covered by health insurance and are eligible to receive health services (if these fees were paid) until the first day of instruction for the following term.

Before a refund is made to a student, the University must make a refund to appropriate financial aid programs providing assistance to the student. A student indebted to the University at the time of withdrawal will have the amount owed deducted from the amount of any refund available.

Students permitted to pay tuition and fees on the installment plan, or who make no payment at all, and then withdraw from the University, are liable for the full amount of tuition and fees originally assessed less applicable refunds.

Special refund policies apply to those who withdraw to enter either active duty in the armed forces or other approved national defense service.

In case of extenuating circumstances, such as medically documented serious illness or injury, exception to these refund periods may be made by the director of the Office of Admissions and Records. The petition form to request a refund is available at Window 25, 100 Henry Administration Building.

## REDUCTION OF PROGRAM

Students who paid tuition and/or fees and later reduce their registration to a lower credit range, as indicated on page 22, receive full refund of the difference in tuition and fees specified for the ranges if the change is made during the periods listed below. Thereafter, no refund is allowed.

- In a semester, twelve-week term, or eleven-week summer law program, full refund, except for the nonrefundable charge, during the first ten days of instruction; no refund thereafter;
- In an eight-week summer term, full refund, except for the nonrefundable charge, during the first seven days of instruction; no refund thereafter; and
- For University terms of different lengths, refund periods are determined proportionately in accordance with the above principles.

## EXEMPTIONS AND WAIVERS OF TUITION AND FEES<sup>1</sup>

Appearing below are the waivers and exemptions available to students and the conditions under which they are granted.

Recipients of *wave* have had the amount for the service actually assessed and then waived by University policy. Such recipients are therefore eligible to receive the benefits of the service provided by the charge.

An *exemption* carries no original charge, so recipients are not eligible to receive the benefits of the services provided by the charge. Students exempt from any particular charge may make individual arrangements with the service provider; such arrangements are subject to the policies of the individual provider.

Unless otherwise exempted by Board of Trustees authorization, the payment of tuition and fees is required of academic employees of the University or allied agencies under appointment for less than 25 percent of full-time service, and of staff employees under appointment for less than 50 percent of full-time service.

For tuition and fees assessment purposes, an appointment must be to an established position for a specific amount of time and a salary commensurate with the percentage of time required, and it must require service for not less than three-fourths of the academic term. Note: A term is defined as running from the first day of class through the last day of final examinations. Three-fourths of a term is defined as ninety-one calendar days in a semester and forty-one calendar days during the eight-week summer term. Tuition and fees privileges do not apply to students employed on an hourly basis in either an academic or staff capacity, or to persons on leave without pay.

1. For the purpose of this section, the four employment categories at this campus are defined as follows:

**Faculty:** The faculty includes (1) those in the professional ranks (i.e., professor, associate professor, assistant professor); (2) instructors and lecturers; and (3) teaching, research, and clinical associates. Various prefixes may be used in conjunction with these ranks, such as adjunct, clinical, visiting, or research.

**Academic Professional (Academic):** Academic professionals are those employees whose positions have been designated by the president and the chancellor as meeting specialized administrative, professional, or technical needs. Academic professional employees receive an academic contract issued by the Board of Trustees for a term appointment. They are accorded the rights and privileges pertaining to other academic personnel except those that apply specifically to academic employees with faculty rank, such as eligibility for tenure.

**Graduate Student Assistant:** Graduates student assistants include teaching, research, and clinical assistants.

**Staff:** Staff employees are those members of the University work force subject to the rules of the State Universities Civil Service System.

University employees appointed to established civil service positions whose rates of pay are determined by negotiation, prevailing rates, and union affiliation are not considered as paid on an hourly basis and are entitled to the same tuition and fees privileges accorded to other staff members under the regulations.

A student who resigns an appointment, or whose appointment is cancelled before rendering service for at least three-fourths of the term, becomes subject to the full amount of the appropriate tuition and fees for that term unless the student withdraws from University classes at the same time or before the appointment becomes void, or

**1994-1995 SEMESTER TUITION AND FEE SCHEDULE, STUDENTS REGISTERED ON CAMPUS**

(Subject to Change)

	FULL PROGRAM				PARTIAL PROGRAMS			
	RESIDENT(R)/NONRESIDENT(N)		RANGE I		RESIDENT(R)/NONRESIDENT(N)		RANGE IV <sup>1</sup>	
			12 semester hours and above; 3 units and above				Zero credit only	
<b>Undergraduate</b>								
Tuition (general)	\$1,450	\$3,990	\$ 977	\$2,680	\$503	\$1,370	\$252	
Fees*	474	474	474	474	201	201	201	
Total	\$1,924	\$4,464	\$1,451	\$3,154	\$704	\$1,571	\$453	
Tuition (engineering)	\$1,700	\$4,240	\$1,143	\$2,847	\$587	\$1,453	\$293	
Fees*	474	474	474	474	201	201	201	
Total	\$2,174	\$4,714	\$1,617	\$3,321	\$788	\$1,654	\$494	
Tuition (chemistry/life science)	\$1,700	\$4,240	\$1,143	\$2,847	\$587	\$1,453	\$293	
Fees*	474	474	474	474	201	201	201	
Total	\$2,174	\$4,714	\$1,617	\$3,321	\$788	\$1,654	\$494	
Tuition (art, architecture, music)	\$1,650	\$4,190	\$1,110	\$2,813	\$570	\$1,437	\$285	
Fees*	474	474	474	474	201	201	201	
Total	\$2,124	\$4,664	\$1,584	\$3,287	\$771	\$1,638	\$486	
<b>*Fees, Ranges I-II:</b>	<b>\$474</b>				<b>Ranges III-IV:</b>	<b>\$201</b>		
Service	\$120				Health Insurance	\$126		
Health Service	120				General	75		
Health Insurance	126							
General	75							
Transportation	18							
Krannert	5							
SEAL, SORF, SGA	10							

**TUITION AND FEES, 1995 SUMMER SESSION**

(Subject to Change)

	RANGE I		RANGE II		RANGE III		RANGE IV <sup>2</sup>	
	9 or more semester hours; 2.25 or more units		5-8 semester hours; 1.25-2.0 units		3-4 semester hours; .75-1.0 units		0-2 semester hours; 0-.5 unit	
<b>Undergraduate</b>								
Tuition (general)	\$906	\$2,494	\$725	\$1,995	\$363	\$998	\$182	\$499
Tuition (engineering)	\$1,063	\$2,650	\$850	\$2,120	\$425	\$1,060	\$213	\$530
<b>FEES</b>								
<b>Ranges</b>	<b>TERM I (4 weeks)</b>		<b>TERM II (8 weeks)</b>		<b>I-II-III</b>		<b>IV</b>	
Service	\$30	\$0	\$60	\$0				
Health Service	30	0	60	0				
General	25	25	50	50				
Transportation	5	0	9	0				
Krannert	2	0	3	0				
SORF	2	0	5	0				
Health Insurance	-	-	126	126				
<b>Totals</b>	<b>\$94</b>	<b>\$25</b>	<b>\$313</b>	<b>\$176</b>				

1. Students enrolled in Range IV pay the same tuition rate regardless of residency status.
2. Summer students registered for zero credit pay the Illinois resident tuition rate.

the student has submitted a final thesis within one week after the resignation date.

Students holding appointments—as academic employees, graduate assistants, or fellows—to the close of the second semester, for whom tuition and/or the Service Fee have been provided by exemption or waiver, are entitled to the same exemption of tuition and/or the Service Fee for the summer session or term immediately following, providing they hold no appointments during the summer session or term.

Tuition and fee waivers are not granted for the Executive M.B.A. Program or other self-supporting programs.

#### APPLICATION FEE

Applicants for admission must submit a \$30 (\$40 for international applicants) application fee (amount subject to change) to help defray processing costs. The fee is nonrefundable to applicants approved for admission and to denied applicants who submit complete or partial applications prior to the date all admission spaces are filled in the college and curriculum of their choice. Application fees will be returned to persons applying for admission to curricula that were closed to further admission or to programs not being offered.

Exempt from payment of the application fee are:

- Faculty and academic professional employees.
- University of Illinois faculty, academic, and staff retirees.
- Permanent staff employees of the University and other institutions and agencies under the University Civil Service System who have been assigned to established permanent and continuous staff positions and who are employed for at least 50 percent of full time.
- Employees of certain specifically identified related agencies who are authorized tuition and/or Service Fee waivers.
- Summer-session-only graduate degree applicants after their first registration for on-campus work.
- Students registered at the University of Illinois at Chicago who wish to enroll at the Urbana-Champaign campus for the summer session only.
- Persons eligible under the Illinois Veteran Grant Program.

Waivers of the application fee are authorized for:

- Applicants who, because of extreme financial hardship, cannot meet the cost of the fee. In general, evidence of extreme financial hardship is a family income at or below the low standard family budget of the Bureau of Labor Statistics or the receipt of a testing waiver from the American College Testing Program of the College Entrance Examination Board. Applicants currently attending another collegiate institution may provide evidence of the financial package received at the institution.
- Applicants under approved foreign exchange programs in which the University participates, such as the Latin American Scholarship Program of American Universities and the African Scholarship Program of American Universities, and foreign students participating in approved exchange programs in which the waiver of fees is reciprocal.
- Inter-campus transfers at the same level: undergraduate to undergraduate, or graduate to graduate.
- Applicants requesting a change in admission consideration from one campus of the University of Illinois to another for the same level and term. This would include applicants denied admission on one campus as well as applicants wishing to cancel admission or admission consideration on one campus for similar consideration on another campus. Students applying simultaneously to two campuses must pay the application fee at each campus. Undergraduate students applying for admission to a professional or graduate college on either of the two campuses must pay the application fee.
- Students from other universities participating in the Committee on Institutional Cooperation (CIC) Program by taking courses at the University of Illinois.
- Persons who are applying for CIC-supported fellowships to study at a CIC member institution.
- Graduate and professional applicants whose entry is advanced or delayed by action of their major departments are not required to pay a second application fee.
- University of Illinois students applying for work on a second campus as concurrent registrants, non-University of Illinois students applying as concurrent registrants from another institution

with which the University has a reciprocal agreement, and students who have been concurrent enrollees the immediately preceding term and who plan to return to their primary campuses the following term.

- Cooperating teachers and administrators who receive assignment of practice teachers, who receive assignment of students meeting the clinical experience requirement in teacher education, or who cooperate in research projects related to teacher education, cooperating librarians, school-nurse teachers, social welfare field supervisors, recreation field supervisors, health-education field supervisors, speech pathology supervisors, developmental child care field supervisors, educational psychology supervisors, continuing education supervisors, industrial relations field supervisors, and physicians participating without salary in the instructional program of the University of Illinois College of Medicine at Urbana-Champaign.
- Students on leave-of-absence status on reentry.
- Illinois Teacher of the Year recipients.

#### WAIVER OF TUITION

Tuition is waived for:

- All faculty and academic professional employees (excluding graduate assistants) of the University on appointment for at least 25 percent of full-time service, provided the appointments require service for not less than three-fourths of a term. This waiver also applies to employees of certain specifically identified related agencies whose positions are considered equivalent to academic positions of the University.
- Graduate teaching and research assistants of the University on appointment for at least 25 percent but not more than 67 percent of full-time service. Their appointments must require service for not less than three-fourths of the term. Those on appointment for 68 percent or more of full-time service pay tuition at the in-state rate and are eligible for waiver of the Service Fee only. *Caution:* Assistantship appointments are cumulative. For example, if a person holds two appointments, a 25-percent and a 50-percent assistantship appointment, he or she is ineligible for a tuition waiver.
- Students holding appointments—as employees, graduate assistants, or fellows—to the close of the final term of an academic year, for whom tuition and/or the Service Fee have been provided through waiver, are entitled to a waiver of the same kinds of tuition and fees for the summer session or summer term immediately following, provided they hold no appointments during that summer session or term. Students holding summer session or summer term appointments as fellows or as employees are subject to such tuition and fees as would be assessed in accordance with the principles expressed above.
- Staff employees of the University, of any other institutions and agencies under the University Civil Service System, and of certain specifically identified related agencies in status appointments or in appointments designed to qualify for status in an established class (e.g., trainee, intern) for at least 50 percent of full-time services who register in regular University courses not to exceed:
  - Six credit hours or two courses in a semester or quarter if on full-time appointment,
  - Four credit hours if on a 75- to 99-percent time appointment, or
  - Three credit hours if on a 50- to 74-percent time appointment, provided they (1) meet conditions and eligibility for admission as prescribed by the Office of Admissions and Records, (2) are not students as defined in Civil Service Rule 7.7c, and (3) have approval by their employing departments of enrollment and of a makeup schedule to cover any time in course attendance during their regular work schedules. The waiver of tuition also applies to any additional hours of registration by staff employees that keep them within the same fee assessment credit range. Staff employees whose total registration is in a higher range than that authorized by their tuition waiver pay only the difference between the waiver authorization and the higher range in which their total registration places them.
- Staff employees in status, learner, trainee, apprentice, or provisional appointments may enroll without payment of tuition in regular courses directly related to their University employment not to exceed 10 credit hours per semester provided they have made application and received prior approval for enrollment as required by procedures issued by the director of Staff Human Resources and set forth in *Policy and Rules—Staff*.

- Holders of tuition waiver scholarships.
- Holders of graduate tuition and fee waivers awarded by the Graduate College.
- University of Illinois faculty, academic, and staff retirees.
- Holders of grants or contracts from outside sponsors that provide payments to cover the total cost of instruction.
- Cooperating teachers and administrators who receive assignment of practice teachers, who receive assignment of students meeting the clinical experience requirement in teacher education curricula, or who cooperate in research projects related to teacher education: one semester, quarter, or summer session for each semester, quarter, or equivalent service rendered within two consecutive semesters. The waiver will apply to the semester, quarter, or summer session of registration, as designated by the student, that is concurrent with, or following, the term of service, but must be applied no later than one calendar year from the end of the term of service. Concurrent registration on more than one campus of the University or in University extramural courses constitutes one semester, quarter, or session of eligibility for waiver. A similar waiver is authorized for cooperating librarians, school-nurse teachers, social welfare field supervisors, developmental child care field supervisors, recreation field supervisors, health-education field supervisors, speech pathology supervisors, educational psychology supervisors, continuing education supervisors, industrial relations field supervisors, and physicians who participate without salary in the instructional program of the University of Illinois College of Medicine at Urbana-Champaign. (Acceptance of more than one assignment from any of the above listed offices during any one term will generate only one waiver.)
- Illinois Teacher of the Year recipients.
- Eligible Illinois senior citizens. (Persons desiring information and/or an application for this waiver should contact the Office of Student Financial Aid, Fourth Floor, Turner Student Services Building, 610 East John Street, Champaign, IL 61820.)
- Children of eligible employees.

#### WAIVER OF THE NONRESIDENT PORTION OF TUITION

Nonresident portion of tuition is waived for:

- Employees on appointment for at least 25 percent of full-time service with the University or with specifically identified related agencies, provided the appointment requires service for not less than three-fourths of the term.
- The faculties of state-supported institutions of higher education in Illinois holding appointments of at least one-fourth time, provided the appointments require service for not less than three-fourths of the term.
- The teaching and professional staff in the private and public elementary and secondary schools in Illinois (such as counselors, school psychologists, school social workers, librarians, and administrators) who hold such appointments at least one-fourth time, and for not less than three-fourths of the term.
- The spouses and dependent children of employees on appointment with the University or certain specifically identified related agencies for at least 25 percent of full-time service, and of those listed in the second item above. (Dependent children are those who qualify as dependents for federal income tax purposes.)
- The spouses and dependent children of fellows and trainees who are employed as teaching assistants to the fullest extent permitted by their fellowship appointments.
- Persons actively serving in one of the armed forces of the United States who are stationed and present in the state of Illinois in connection with that service and their spouses and dependent children, as long as the military persons remain stationed, present, and living in this state.

#### SERVICE FEE WAIVERS AND EXEMPTIONS

The Service Fee is waived for:

1. Graduate teaching and research assistants holding at least 25 percent appointments for three-fourths of a term, as defined in the section on tuition.
2. Foreign exchange students with Service Fee waivers as part of exchange contracts.
3. Holders of Graduate College Service Fee waivers.
4. Law students with Service Fee waivers.
5. Participants in the International Exchange Program in Agriculture.

6. Participants in the Bridge Program.
7. Illinois Teacher of the Year recipients.
8. CIC Scholars.
9. University of Illinois at Chicago students in concurrent enrollment.
10. Department of Children and Family Services dependents.

Exempt from the Service Fee are:

1. Students enrolled in Credit Ranges III or IV (Range IV only in summer session).
2. Students registered *in absentia*.
3. Students registered in study-abroad programs.
4. Students registered as participants in the official high school concurrent enrollment program.
5. Participants in the Enrich program.
6. Students registered in recognized off-campus programs.
7. Faculty and academic employees holding at least 25-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
8. Staff employees holding at least 50-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
9. Faculty, academic, and staff employees of specifically identified related agencies.
10. Interinstitutional staff employees.
11. Cooperating teachers, administrators, and field supervisors, as defined in the section on tuition.
12. Employee (as defined in items 7 and 8 above) holding combined appointments with the University of Illinois at Chicago.
13. University of Illinois faculty, academic, and staff retirees.

#### GENERAL FEE WAIVERS AND EXEMPTIONS

The General Fee is waived for:

1. CIC Scholars.
2. University of Illinois at Chicago students in concurrent enrollment.
3. Department of Children and Family Services dependents.
4. Illinois Teacher of the Year recipients.

Exempt from the General Fee are:

1. Faculty and academic employees holding at least 25-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
2. Staff employees holding at least 50-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
3. Faculty, academic, and staff employees of specifically identified related agencies.
4. Interinstitutional staff employees.
5. Cooperating teachers, administrators, and field supervisors, as defined in the section on tuition.
6. Employees (as defined in items 1 and 2 above) holding combined appointments with the University of Illinois at Chicago.
7. University of Illinois faculty, academic, and staff retirees.

#### HEALTH SERVICE FEE WAIVERS AND EXEMPTIONS

The Health Service Fee is waived for:

1. CIC Scholars.
2. University of Illinois at Chicago students in concurrent enrollment.
3. Department of Children and Family Services dependents.
4. Illinois Teacher of the Year recipients.

Exempt from the Health Service Fee are:

1. Students enrolled in Credit Ranges III or IV (Range IV only in summer session).
2. Students registered *in absentia*.
3. Students registered in study-abroad programs.
4. Students registered as participants in the official high school concurrent enrollment program.
5. Participants in the Enrich program.
6. Students registered in recognized off-campus programs.
7. Faculty and academic employees holding at least 25-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
8. Staff employees holding at least 50-percent-time appointments for three-fourths of a term, as defined in the section on tuition.



9. Faculty, academic, and staff employees of specifically identified related agencies.
10. Interinstitutional staff employees.
11. Cooperating teachers, administrators, and field supervisors, as defined in the section on tuition.
12. Employees (as defined in items 7 and 8 above) holding combined appointments with the University of Illinois at Chicago.
13. University of Illinois faculty, academic, and staff retirees.
14. University staff employees registered as students but eligible for the mandatory State of Illinois Employees Insurance Program.

#### TRANSPORTATION FEE WAIVERS AND EXEMPTIONS

The Transportation Fee is waived for:

1. CIC Scholars.
2. University of Illinois at Chicago students in concurrent enrollment.
3. Department of Children and Family Services dependents.
4. Illinois Teacher of the Year recipients.

Exempt from the Transportation Fee are:

1. Students enrolled in Credit Ranges III or IV (Range IV only in summer session).
2. Students registered in *absentia*.
3. Students registered in study-abroad programs.
4. Students registered as participants in the official high school concurrent enrollment program.
5. Participants in the Enrich program.
6. Students registered in recognized off-campus programs.
7. Faculty and academic employees holding at least 25-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
8. Staff employees holding at least 50-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
9. Faculty, academic, and staff employees of specifically identified related agencies.
10. Interinstitutional staff employees.
11. Cooperating teachers, administrators, and field supervisors, as defined in the section on tuition.
12. Employees (as defined in items 7 and 8 above) holding combined appointments with the University of Illinois at Chicago.
13. University of Illinois faculty, academic, and staff retirees.

#### SEAL, SORF, SGA, and KCPA WAIVERS AND EXEMPTIONS

The SEAL, SORF, SGA, and KCPA Fees are waived for:

1. CIC Scholars.
2. University of Illinois at Chicago students in concurrent enrollment.
3. Department of Children and Family Services dependents.
4. Illinois Teacher of the Year recipients.

Exempt from the SEAL, SORF, SGA, and KCPA Fees are:

1. Students enrolled in Credit Ranges III or IV (Range IV only in summer session).
2. Students registered in *absentia*.
3. Students registered in study-abroad programs.
4. Students registered as participants in the official high school concurrent enrollment program.
5. Participants in the Enrich program.
6. Students registered in recognized off-campus programs.
7. Faculty and academic employees holding at least 25-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
8. Staff employees holding at least 50-percent-time appointments for three-fourths of a term, as defined in the section on tuition.
9. Faculty, academic, and staff employees of specifically identified related agencies.
10. Interinstitutional staff employees.
11. Cooperating teachers, administrators, and field supervisors, as defined in the section on tuition.
12. Employees (as defined in items 7 and 8 above) holding combined appointments with the University of Illinois at Chicago.
13. University of Illinois faculty, academic, and staff retirees.

#### STUDENT HEALTH INSURANCE FEE

Students totally exempt from payment of the Student Health Insurance Fee and therefore not eligible for these benefits and services are:

- Persons registered for doctoral thesis research in absentia.
- Persons registered in off-campus courses and study-abroad courses for zero credit. (If registered for more than zero credit, they are required to pay this fee.)
- University employees registered at the request of their departments in zero-credit courses especially established to improve their work.
- Employees who are registered as students but who are eligible for and participate in the mandatory State of Illinois Employees Insurance Program.
- Employees of certain specifically identified related agencies who are eligible automatically to receive hospital-medical coverage as an employment benefit at the cost of the employing agency.
- Students presenting petitions and evidence of approved equivalent medical insurance coverage (See Student Health Insurance.)
- Illinois Teacher of the Year recipients.
- CIC Visiting Scholars and concurrent University of Illinois registrants.

#### STUDENT HEALTH INSURANCE

The University Board of Trustees requires all students to be covered by health insurance through either a program provided by the University or one determined to be equivalent to that offered by the University.

The Student Insurance Office is permanently located at 807 South Wright Street, Fourth Floor, Champaign. For the semester periods during which on-campus registration is held, the insurance office is located in the Armory. When the Post-Registration Service Center is open, an insurance station is operated in the Illini Union for the first (fall) and second (spring) semesters, and in the Henry Administration Building for the summer session. During the times either the Armory or the Service Center station is open, all exemptions, reinstatements, and applications for coverage must be made at that location. Students should consult the current *Timetable* for the dates and times of on-campus registration and operation of the post-registration service activities.

Students registered in University classes for residence work are assessed a fee each registration to cover the cost of the program. A student presenting evidence of equivalent medical insurance coverage (a copy of the insurance policy or a schedule of benefits) may be exempted from payment of this fee upon approval of a petition submitted IN PERSON at one of the Insurance Office locations by no later than the final date established each term for a refund of tuition and fees. A signed waiver and assumption of responsibility is also required. An exemption will continue in effect until such time as the student requests reinstatement to the plan or does not respond to a periodic request to confirm that he/she continues to be covered by another health plan. Reinstatement may also be requested at any other time up to the last day of coverage for a semester or term. Reinstatement is guaranteed if application is within thirty-one days of the termination of other insurance; after thirty-one days, reinstatement is subject to approval of a statement of medical history. If approved, a pre-existing condition limitation will be applicable for the first 120 days of coverage. The premium is not prorated for a partial semester of coverage.

- First (fall) semester coverage extends through the first day of on-campus registration for the second (spring) semester.
- Second (spring) semester coverage extends through the first day of on-campus registration for the eight-week summer term.
- Summer session coverage extends through the first day of on-campus registration for the first (fall) semester.

Premium rates for each semester or term may be found in the respective *Timetable*.

Married students may purchase student health insurance to cover spouses and dependent children upon application and payment of an additional premium at one of the Student Insurance Office locations within the first ten days of instruction of a semester or the first seven days of instruction in a summer session. Application and premium payments must be made for each semester or term. Premiums for spouses and children may not be charged to student accounts.

Petitions for exemption or reinstatement, and applications for dependent or extension of coverage must be submitted IN PERSON. Items mailed to the Student Insurance Office or included with payments made by mail will be returned to the sender without action;

such items must be resubmitted by the student in person within the stated deadline for the term in question.

## FINANCIAL AID

Financial aid programs are designed to provide assistance to students who otherwise would not be able to pursue a postsecondary education. A basic principle of most aid programs is that parents and students pay for an education according to their capabilities. Student financial aid programs, therefore, are designed to supplement—not replace—a family's contribution.

Even with relatively low tuition and fee charges, the cost of a college education still can be a financial burden for many families. (Estimated expenses for an undergraduate student at the University appear in Table 3 on page 22.)

No student, however, should fail to apply for admission because his or her family feels unable to pay the full cost of a college education. The Office of Student Financial Aid at the University of Illinois at Urbana-Champaign (Fourth Floor, Turner Student Services Building, 610 East John Street, Champaign, IL 61820) administers several financial aid programs. If the family's resources are determined to be insufficient to meet necessary educational expenses, financial aid in the form of loans, employment, grants, and/or scholarships usually can be made available.

The major sources of aid are federal and state government programs, as well as funds administered by the University. There also are funds for which a student applies directly to an awarding agency.

Personnel in the Office of Student Financial Aid are available to those needing information on financial assistance. Office hours are from 9:00 a.m. to 5:00 p.m. Monday through Friday, except on all-campus holidays; call (217) 333-0100.

## THE APPLICATION PROCESS

Follow the steps below to apply for federal, state, and University aid.

**NOTE:** Students in veterinary medicine who do not have a bachelor's degree should follow these steps prescribed for undergraduate students.

- Complete a need-analysis document. The Free Application for Federal Student Aid (FAFSA) is used to determine eligibility for federal, state, and institutional assistance.
- Illinois residents apply for an Illinois Student Assistance Commission (ISAC) Monetary Award Program grant (see below) by releasing information to ISAC and the University.
- All applicants receive a Student Aid Report that indicates whether they are eligible for a Federal Pell Grant (see below). All copies of this report should be submitted to the Office of Student Financial Aid.

## TRANSFER AND READMITTED STUDENTS

In addition to completing a need-analysis document, transfer students and students who have been readmitted to the University who wish to apply for financial aid must provide financial aid transcripts for all institutions they have attended. Even students who have not received aid previously must provide a financial aid transcript before being considered for future assistance. Transcript forms can be obtained from the Office of Student Financial Aid.

## HOW TO OBTAIN NEED-ANALYSIS DOCUMENTS

Need-analysis documents are available from high school and community college counselors. Additional financial aid information specific to the University of Illinois at Urbana-Champaign and an optional Supplemental Scholarship Information Form are in application packets available from the Office of Student Financial Aid. Students may call the office at (217) 333-0100 and request documents via a recorded telephone message.

## APPLICATION DATES

Students seeking financial assistance through the University are encouraged to apply early. Applications should be submitted for the next academic year as soon after January 1 as possible.

The preferential filing date for first-priority processing and equal consideration of financial aid applications is mid-March prior to the academic year for which aid is desired. Applications completed after mid-March will be considered according to the availability of funds.

## SOURCES OF FINANCIAL ASSISTANCE

Several types of financial aid are available. Since the University's funds are limited, students also should seek assistance provided by national, state, and local organizations.

### SCHOLARSHIPS

Most scholarships require high scholastic achievement, but financial need is an additional criterion. Recipients of need-based scholarships are determined from information supplied on the FAFSA and the optional Supplemental Scholarship Information Form.

The Merit Recognition Scholarship (MRS) administered by the Illinois Student Assistance Commission (ISAC) is awarded solely on the basis of scholastic achievement. The \$1,000 award is for entering freshmen who graduated in the top 5 percent of an Illinois high school class. Recipients must attend an Illinois postsecondary institution. The program is dependent upon annual funding by the state. In 1994-95, funding was sufficient for only the top 2 percent of graduates to receive awards. Potential recipients are notified by the Illinois Student Assistance Commission.

The Paul Douglas Scholarship, another program not based on need and administered by the Illinois Student Assistance Commission, is for students in teacher education curricula. While amounts vary, a typical award for students attending the University of Illinois at Urbana-Champaign is \$5,000. Recipients must have graduated in the top 10 percent of their high school classes.

In addition to scholarships administered by the Office of Student Financial Aid and the ISAC, numerous agencies, organizations, and businesses provide funds to students in specific curricula. These outside agencies, organizations, and businesses often contact individual departments or units for nominations of potentially eligible recipients. For further information, students may wish to contact the departments in which they are enrolled or have been accepted for admission.

## FEDERAL AND STATE GRANT PROGRAMS

### FEDERAL PELL GRANT

A major source of financial assistance for undergraduate students is the federally funded Pell Grant program. For academic year 1994-95, awards ranged from \$200 to \$2,300.

As indicated in The Application Process (see previous section), undergraduate aid applicants should submit all parts of their Pell Grant Student Aid Reports to complete their aid application files. While Pell Grant eligibility does not determine eligibility for other financial aid, students must demonstrate that they have applied for this federal program before receiving assistance from the University's more limited resources.

### ILLINOIS STUDENT ASSISTANCE COMMISSION (ISAC) MONETARY AWARD PROGRAM (MAP)

The Illinois Student Assistance Commission Monetary Award Program (MAP) is another major source of grant assistance to undergraduate Illinois residents attending colleges and universities in the state. Ranging from \$400 to \$3,800 (1994-95), this award is granted on the basis of demonstrated financial need and applied toward tuition and fees.

**NOTE:** The Illinois Student Assistance Commission also administers a State Scholar Program that recognizes scholastic achievement. It is not necessary for a student to be named a State Scholar to be eligible for a monetary award, nor does receiving such recognition guarantee eligibility for a monetary award.

## GRANTS AWARDED BY THE OFFICE OF STUDENT FINANCIAL AID

Awards from other federal and state grant programs are made by the Office of Student Financial Aid. Students do not apply specifically for these grants; anyone filing a FAFSA is considered. (See The Application Process.)

The Federal Supplemental Educational Opportunity Grant is a grant program distinct from the Federal Pell Grant (above). The federal government annually provides postsecondary institutions with allocations from which awards are made. At UIUC during 1994-95, awards ranged from \$200 to \$2,400.

Students for Equal Access to Learning (SEAL) and Student-to-Student Matching (STSM) grant programs are funded by voluntary student contributions and matching funds provided by the state through the Illinois Student Assistance Commission. Students at Urbana-Cham-

paign initiated the SEAL program by referendum in 1970 and have reaffirmed it every four years since. STSM grants are awarded in accordance with rules prescribed by the Illinois Student Assistance Commission. During academic year 1994-95, awards ranged from \$100 to \$1,000.

### **EMPLOYMENT: A FORM OF SELF-HELP FINANCIAL AID**

The Office of Student Financial Aid offers employment assistance to any University student seeking part-time work. Office hours are 9:00 a.m. to 5:00 p.m., Monday through Friday, except on all-campus holidays.

The University of Illinois at Urbana-Champaign employs more than 10,000 part-time student workers in offices, libraries, laboratories, farms, and food service units; each year these student employees earn more than \$9 million. In addition, many students work in the community.

Hourly wages for student workers vary according to the type of work and responsibilities involved, but equal at least the minimum wage. Most jobs require from ten to fifteen hours of work per week. Earnings can approximate 20 percent of a student's college expenses.

Many students find food service work or temporary odd jobs before or after regular University hours. By arranging class schedules to have consecutive hours free each day for working, students may improve their employment opportunities. Job opportunities requiring advanced skills or knowledge offer excellent part-time, career-related experience to University students.

### **FEDERAL WORK-STUDY**

The University of Illinois participates in Federal Work-Study, a financial aid program that helps colleges and universities provide additional jobs for students. To participate in the program, a student must have applied for need-based aid and have a Work-Study award as part of a financial aid package from the Office of Student Financial Aid.

A Work-Study award recipient must check with the Office of Student Financial Aid to obtain assistance in job placement. This should be done at the beginning of the academic term.

### **STUDENT LOANS: ANOTHER FORM OF SELF-HELP ASSISTANCE**

#### **LOW-INTEREST LOANS AWARDED BY THE UNIVERSITY**

The Office of Student Financial Aid offers loans to students who demonstrate financial need. All on-time applicants for University aid are considered for low-interest loans from the University. The Office of Student Financial Aid, acting for the University of Illinois as lender, determines who is eligible for, and the amount of, a University long-term loan.

These loans normally carry an interest rate of 5 percent, and repayment is deferred until six months after the borrower ceases to be at least a half-time student.

The University of Illinois also awards the Federal Perkins Loan to students. These loans carry a 5 percent interest rate, and repayment is deferred until either six or nine months after the borrower ceases to be a full-time student. Federal Health Professions Student Loans, available to veterinary medicine students, carry a 5 percent interest rate with repayment beginning twelve months after the borrower leaves school.

#### **NEW FEDERAL DIRECT LOAN PROGRAMS**

For those who attend college at least half time, the federal government has supported guaranteed long-term loan programs which offer several borrowing advantages to students and their families. Loans are available to all students, although programs differ slightly for those who demonstrate financial need, and available amounts are determined by whether a student is dependent or independent.

Beginning with academic year 1994-95, the University of Illinois has participated in the William D. Ford Federal Direct Loan program. (Previous guaranteed loans were titled Stafford Loans under the Federal Family Education Loan [FFEL] program.) Under the Direct Loan program, schools disburse amounts directly to students through funds received from the federal government. Previously, students borrowed funds from commercial lenders.

Subsidized Direct Loans are available to students demonstrating financial need. The interest subsidy is paid by the federal government while the student borrower is in school, and payments are deferred

until six months after the borrower ceases to be enrolled at least half time. At the freshman level, a student may borrow up to \$2,625; at the sophomore level, \$3,500; at the junior and senior levels, \$5,500. The aggregate maximum that can be borrowed for undergraduate study is \$23,000. The interest rate varies, but the maximum is 8.25 percent.

Parents of dependent students can borrow through the Federal Direct PLUS Loan program. For each dependent student, each year parents may borrow up to educational costs, minus the amount of other aid the student receives. Payments begin while the student is still in school. The interest rate varies, but the maximum is 9 percent.

The Federal Direct Unsubsidized Loan program is available to independent undergraduate and graduate students. While payments are deferred until a student borrower leaves school permanently and a relatively attractive interest rate (maximum 8.25 percent) is charged, interest accrues while the borrower is in school. Independent undergraduates may borrow up to the following annual amounts according to class level: freshman, \$6,625; sophomore, \$7,500; junior and senior, \$10,500 each academic year. Dependent students whose need is not met by other resources may borrow up to the same maximum amounts (including subsidized loans) available to independent students.

Another advantage of the Direct Loan program is that it provides the student borrower with several repayment options including income-contingent plans and graduated repayments. For further information concerning Federal Direct Student Loans, contact the University of Illinois Office of Student Financial Aid.

*NOTE:* As this publication was being produced, Congress was considering proposals which would revise the Direct Loan program. One or more provisions of federal loan programs may have been changed.

### **SPECIALIZED AID PROGRAMS**

Although most financial aid award guidelines for Urbana-Champaign students are determined by the Office of Student Financial Aid, some aid programs are administered by groups or agencies to which the student applies directly (besides the two major grant programs described earlier: Federal Pell Grant and Illinois Student Assistance Commission Monetary Award).

#### **PROGRAMS FOR VETERANS**

##### **ILLINOIS VETERANS GRANTS**

An Illinois statute provides a grant for each Illinois resident who is a veteran and who has served honorably on active duty in the armed forces of the United States, provided that certain eligibility requirements are met. The grant covers the cost of resident tuition and most fees. The veteran must have been honorably discharged.

Members currently serving in the armed forces also are entitled to an Illinois Veterans Grant provided they have served at least one year and would be qualified for the grant if discharged.

Contact the Illinois Student Assistance Commission for an application and information on additional requirements.

##### **OTHER VETERANS' EDUCATIONAL BENEFITS**

Students seeking information regarding veterans' educational benefits should contact the Veterans Affairs staff in the Office of Student Financial Aid.

#### **OTHER SPECIALIZED SCHOLARSHIP AND GRANT PROGRAMS**

##### **ILLINOIS DEPARTMENT OF CHILDREN AND FAMILY SERVICES ASSISTANCE**

The department will cover the cost of resident tuition and fees for four years and will provide maintenance and payment of school expenses to supplement the student's earnings and other resources.

Recipients must be under the guardianship of the Illinois Department of Children and Family Services. For an application and additional information, contact a local caseworker or the Illinois Department of Children and Family Services, One North Old State Capitol Plaza, Springfield, IL 62706, or 100 West Randolph Street, 6th Floor, Chicago, IL 60601.

##### **ILLINOIS DEPARTMENT OF REHABILITATION SERVICES**

This assistance varies according to individual needs and program requirements. A recipient must have a disability that is a handicap to employment. To apply, Illinois residents should contact the State of Illinois Department of Vocational Rehabilitation, 1207 South Oak Street, Room 102, Champaign, IL 61820. Students from other states should contact their State Department of Rehabilitation Services.



## TUITION SCHOLARSHIPS

### CHILDREN OF VETERANS SCHOLARSHIPS

The University of Illinois may award three scholarships per year in each Illinois county: one to a child of a veteran of World War II, one to a child of a veteran who served at any time during the Korean conflict between June 25, 1950, and January 31, 1955, and one to a child of a veteran who served at any time during the Vietnam conflict between January 1, 1961, and May 7, 1975. The candidate must be a permanent resident of Illinois and of the county where the application is made. Scholarships are awarded on the basis of ACT scores with preference given to candidates whose veteran parent is deceased or disabled. Applications are available from the Office of Student Financial Aid or from superintendents of educational service regions from December 1 through March 15 for the next academic year.

### GENERAL ASSEMBLY SCHOLARSHIPS

Each member of the Illinois General Assembly may award one to four scholarships each year. A recipient must reside in the district represented by the nominating legislator. Applications and information on additional requirements are available from state senators and representatives.

### ILLINOIS NATIONAL GUARD/NAVAL MILITIA SCHOLARSHIPS

These scholarships provide tuition assistance for those who are currently enlisted in the guard or militia and who have completed at least one year of service. Applications are available from any National Guard armory or Naval Militia unit, the Office of Student Financial Aid, and the Illinois Student Assistance Commission, 1755 Lake Cook Road, Deerfield, IL 60015.

### ILLINOIS RESERVE OFFICERS' TRAINING CORPS (ROTC) SCHOLARSHIPS

A recipient of this tuition waiver scholarship must be an Illinois resident and enrolled in a university or college Army, Navy, or Air Force ROTC program. Students may apply after a minimum of one semester of ROTC. If awarded, scholarships may be retroactive to the beginning of the school year. Application forms are available at each ROTC unit. (See also the Army, Navy, and Air Force Reserve Officers' Training Corps sections in this catalog for federal scholarship opportunities.)

### MIA-POW DEPENDENTS GRANT

This grant is for a child or spouse of an Illinois resident declared a prisoner of war, missing in action, killed, or 100 percent disabled because of a military-related incident. For more information and an application, contact the Illinois Student Assistance Commission.

### POLICE/FIRE PERSONNEL DEPENDENTS ASSISTANCE

Payment of tuition and mandatory fees is available to children (age 25 or younger) of Illinois police or fire personnel killed in the line of duty. For more information and an application, contact the Illinois Student Assistance Commission.

### CORRECTIONAL WORKERS DEPENDENTS ASSISTANCE

Awards of varying amounts are available to dependents, including spouses, of correctional workers who were killed or 90 percent permanently disabled in the line of duty since July 1, 1960. For more information and an application, contact the Illinois Student Assistance Commission.

### SPECIAL TEACHER EDUCATION ASSISTANCE

This program provides a waiver of resident tuition, but not fees, for four calendar years. A candidate must be a recent graduate of an Illinois high school in the upper half of his or her graduating class or must hold a valid Illinois Teacher's Certificate. A recipient must teach in a special education program in a recognized public, private, or parochial school in Illinois for at least two of the five years immediately after graduation from the University. Further information and applications are available from superintendents of educational service regions or the Illinois Student Assistance Commission.

### SCHOLARSHIP FOR FUTURE TEACHERS AND ADMINISTRATORS

Several programs administered by the Illinois Student Assistance Commission provide scholarships of varying amounts for students preparing to teach mathematics or science or any of the several subjects in a designated "teacher shortage area." Assistance also is made available to women and minorities studying educational administration at the graduate level. Requirements and provisions vary. Contact the Illinois Student Assistance Commission for further information and applications.

## FOR MORE INFORMATION ON SCHOLARSHIP PROGRAMS

Many scholarship programs operate independently of any college or university, and recipients usually are free to attend schools of their choice.

Each year, University of Illinois at Urbana-Champaign undergraduates receive more than \$4 million in such awards. Several books available in community and school libraries contain information about these other resources.

## SHORT-TERM LOANS

To meet expenses in emergencies, undergraduates may borrow as much as \$200 for approximately thirty days or until the last day of instruction for the semester, whichever comes first. In order to make more money available to a maximum number of students, applicants should borrow as little as is necessary for as short a period of time as possible. A service fee of \$3 is charged. The interest charge on overdue loans is 18 percent per year on the unpaid balance.

Students who are U.S. citizens or are permanent residents should apply in person to the Office of Student Financial Aid, Fourth Floor, Turner Student Services Building. International students (noncitizens who are not in the United States as permanent residents) should contact the Office of International Student Affairs, 510 East Daniel Street, Champaign, IL 61820 for information.

## PRECOLLEGE PROGRAMS

### PROGRAMS FOR FRESHMEN

The University offers fall semester freshmen the opportunity to complete required testing, to become acquainted with the campus, and to receive academic advising and complete advance enrollment during a summer two-day period prior to the beginning of the fall semester. These opportunities are explained fully in the booklet *Get Ready for Illinois*, which is sent to all accepted applicants.

Freshmen entering in the fall semester who do not participate in the placement testing and summer orientation/advance enrollment programs must complete their required testing, academic advising, and class scheduling during the week immediately preceding the start of classes. Thus, participation in the precollege sessions is strongly urged to ensure a smooth transition to the University environment.

Precollege programs are not available for freshmen entering the University during the spring semester; they must complete required testing, academic advising, and registration during the week immediately preceding the start of classes.

### PLACEMENT TESTING

Placement tests are designed to help determine the levels at which students are best prepared to begin University study in particular subject areas. Scores of these tests are used for initial placement purposes only and are not recorded on student official academic records. The requirements for placement testing vary by college and curriculum, and the *Get Ready for Illinois* booklet provides full details on the required and optional tests.

During March, April, and May, beginning freshmen who have been admitted to the fall semester come to either the Urbana-Champaign campus or the University Center of the University of Illinois at Chicago campus to participate in a one-day program of required testing. The tests taken during this day are the Rhetoric Essay Test, and placement tests in mathematics, chemistry, and foreign languages. These tests must be taken by admitted students if they had these subjects in high school, but have not received college credit for them, and intend to pursue these subjects at the University either as required or elective courses.

Students who live outside of Illinois and more than 250 miles from Champaign-Urbana have the option of completing placement testing on the first day of the orientation/advance enrollment program.

An admitted freshman who fails to complete all required testing by the conclusion of the summer program will be assessed a \$25 late fee (amount subject to change) to take the tests immediately preceding the start of classes if (1) the freshman is a resident of Illinois and (2) the Notice of Admission to the University is dated prior to May 1.

## ACADEMIC ADVISING AND ORIENTATION/ADVANCE ENROLLMENT

A student who has completed the testing required by his or her college may participate in the two-day orientation/advance enrollment program conducted at the Urbana-Champaign campus during June and July. During that period, the student has an opportunity to learn about the expectations of professors and the level of academic standards at the University, as well as the chance to interact with other entering students and currently enrolled University students. Additionally, the new student is able to receive his or her student identification card and to become acquainted with the physical arrangement of the campus, housing facilities, and many other facets of campus life. If interested, the student also has the opportunity to audition for band and choral organizations.

The student's stay culminates in a meeting with an academic adviser who provides information about academic opportunities and requirements and assists the student in selecting a schedule of courses for the fall semester; the course requests of beginning freshmen who participate in the summer program receive priority in the scheduling of classes for the fall semester. Students participating in the program receive their fall class schedules in early August and then may register either by mail or during on-campus registration.

Since the placement test results are used by the colleges and academic departments concerned to evaluate student achievement levels and to assist in arranging class schedules, freshmen must complete all required testing before they can participate in summer orientation/advance enrollment.

A program charge includes one night's accommodations, three meals, and program events. The program charge is waived for any student who received an admission application fee waiver based on extreme financial hardship.

## PROGRAMS FOR TRANSFER STUDENTS

New transfer students have the opportunity to advance enroll for the fall semester during a special one-day program held during the summer. At that time the student meets with an academic adviser to discuss the transfer of credit for all previous college course work, to learn the student's status in terms of progress toward a degree from the University, and to select classes for the fall. The student also has the opportunity to meet in a small group with currently enrolled University students, to interact with other entering students, and to receive his or her student identification card. Each transfer student receives details of the advance enrollment program in the *Get Ready for Illinois* booklet mailed with the Notice of Admission.

## PROGRAM FOR PARENTS

Parents are cordially invited and encouraged to accompany their sons and daughters to the campus for the summer program and to participate in a Parent Orientation Program. Through a variety of information sessions, parents will have the opportunity to meet and speak with campus administrators, faculty, students, and members of the Mothers and Dads Associations. A program charge includes one night's accommodations, three meals, and program events. Parents likewise may take advantage of the opportunity to tour the campus.

## ADDITIONAL INFORMATION

Questions concerning the precollege programs should be referred to:

Precollege Coordinator  
University of Illinois at Urbana-Champaign  
10 Henry Administration Building  
506 South Wright Street  
Urbana, IL 61801  
(217) 333-6427

## SPECIAL PROGRAMS

Because of the comprehensive nature of the University of Illinois at Urbana-Champaign, arrangements for talented and highly motivated students differ among the various colleges and departments. Generally speaking, talented and highly motivated students are able to enter special courses or special sections of courses as freshmen and sophomores and are encouraged as juniors and seniors to participate in special programs for majors offered by the many departments. For

details of these arrangements, see the descriptions in the college sections of this catalog.

Policies and procedures regarding placement and proficiency examinations, the College-Level Examination Program (CLEP), and the Advanced Placement Program are published in the current edition of *Opportunities for Advanced Credit*, a brochure available at college offices or by writing to the Office of Admissions and Records, University of Illinois at Urbana-Champaign, 10 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801, (217) 333-0302.

## ADVANCED PLACEMENT PROGRAM

The Advanced Placement Program, administered by the College Entrance Examination Board, is designed for high school students who are about to enter college and wish to demonstrate their readiness for courses more advanced than those usually studied in the freshman year. Advanced classes are offered in many high schools in one or more of the following subjects: American and comparative government and politics, art history, art studio, computer science, English language and composition, English literature and composition, French language, French literature, German language, Latin, Spanish language, Spanish literature, biology, chemistry, mathematics (calculus), micro- and macroeconomics, physics, psychology, music literature, music theory, and social studies (American history and European history). A national examination in each subject, administered in May by the Educational Testing Service, is designed to measure the competence of students in terms of the point at which college study in that subject should begin. The University encourages high schools and their outstanding students to participate in this program.

Examinations are prepared and graded by national committees of high school and college teachers. They are graded on the following scale: 5, high honors; 4, honors; 3, creditable; 2, pass; and 1, fail. Grade reports are sent to the universities each student specifies at the time of the examination. Each department within the University of Illinois at Urbana-Champaign has the option of granting, or not granting, college credit and advanced placement on the basis of the board's grade.

Transfer students should refer to the section on Acceptance of Nontraditional Transfer Credit on page 16 for the policy on accepting credit earned through the Advanced Placement Program.

Specific credit recommendations for beginning freshmen at the Urbana-Champaign campus are listed below. Assignment of credit for specific courses is dependent upon policies established by the individual departments and colleges and is subject to change upon annual review.

### Art

#### ART HISTORY

Scores of 5 and 4 receive credit for ARTHI 111 (4 semester hours) and ARTHI 112 (4 semester hours).  
Credit is not awarded for scores of 3 and 2.

#### ART STUDIO

Portfolios must be submitted to the School of Art and Design for an evaluation in all studio areas.

### Computer Science

#### COMPUTER SCIENCE A

Scores of 5 and 4 receive credit for C S 105 (3 semester hours).  
Credit is not awarded for scores of 3 and 2.

NOTE: This credit is for a Pascal version of the indicated course.

#### COMPUTER SCIENCE AB

Scores of 5, 4, and 3 receive credit for C S 125 (3 semester hours).  
Scores of 2 receive credit for C S 105 (3 semester hours).

NOTE: This credit is for a Pascal version of the indicated course.

### Economics

#### MICROECONOMICS

Scores of 5 and 4 receive credit for ECON 102 (3 semester hours).  
Credit is not awarded for scores of 3 and 2.

#### MACROECONOMICS

Scores of 5 and 4 receive credit for ECON 103 (3 semester hours).  
Credit is not awarded for scores of 3 and 2.

### English

#### ENGLISH LANGUAGE AND COMPOSITION

Scores of 5 and 4 receive credit for RHET 105 (4 semester hours and exemption from the University Composition I requirement).  
Credit is not awarded for scores of 3 and 2.

**ENGLISH LITERATURE AND COMPOSITION**

Scores of 5 and 4 receive credit for ENGL 103 (3 semester hours) and RHET 105 (4 semester hours) and exemption from the University Composition I requirement).  
Credit is not awarded for scores of 3 and 2.

**Foreign Languages****FRENCH LANGUAGE**

Scores of 5 and 4 receive credit for FR 205 (3 semester hours) and FR 207 (3 semester hours).  
Scores of 3 receive credit for FR 205 (3 semester hours).  
Credit is not awarded for scores of 2.

**FRENCH LITERATURE**

Scores of 5 and 4 receive credit for FR 207 (3 semester hours) and FR 210 (3 semester hours).  
Scores of 3 receive credit for FR 210 (3 semester hours).  
Credit is not awarded for scores of 2.

**GERMAN LANGUAGE**

Scores of 5, 4, and 3 receive credit for GER 211 (3 semester hours).  
Credit is not awarded for scores of 2.

**LATIN**

Scores of 5, 4, and 3 receive credit and placement as follows:  
*Virgil examination:* 3 semester hours of Latin credit and placement in Latin 201.  
*Lyric examination:* 3 semester hours of credit for LAT 201 and placement in Latin 202.  
Credit is not awarded for scores of 2.

**SPANISH LANGUAGE**

Scores of 5 and 4 receive credit for SPAN 103, 104, and 200 (11 semester hours).  
Credit is not awarded for scores of 3 and 2.

**SPANISH LITERATURE**

Scores of 5 and 4 receive credit for SPAN 103, 104, and 200 (11 semester hours).  
Credit is not awarded for scores of 3 and 2.

**Government****AMERICAN GOVERNMENT AND POLITICS**

Scores of 5 and 4 receive credit for POL S 150 (3 semester hours).  
Credit is not awarded for scores of 3 and 2.

**COMPARATIVE GOVERNMENT AND POLITICS**

Scores of 5 and 4 receive credit for POL S 240 (3 semester hours).  
Credit is not awarded for scores of 3 and 2.

**Mathematics and Natural Sciences****BIOLOGY**

Scores of 5 and 4 receive credit for BIOL 120 (5 semester hours).  
Scores of 3 receive credit for BIOL 100 (3 semester hours).  
Credit is not awarded for scores of 2.

**CHEMISTRY**

Scores of 5 and 4 receive general chemistry credit (6 semester hours) and placement in CHEM 122 or 123.  
Scores of 3 receive general chemistry credit (3 semester hours) and placement in CHEM 102 or 109. Students should take the departmental general chemistry proficiency examination.  
Credit is not awarded for scores of 2.

**MATHEMATICS****Calculus AB**

Scores of 5, 4, and 3 receive credit for MATH 120 (5 semester hours) and placement in Mathematics 130.  
Credit is not awarded for scores of 2.

**Calculus BC**

Scores of 5, 4, and 3 receive credit for MATH 120 (5 semester hours) and MATH 130 (3 semester hours) and placement in MATH 242.  
Scores of 2 receive credit for MATH 120 (5 semester hours) and placement in MATH 130.

**PHYSICS****Physics B**

Scores of 5 and 4 receive credit for PHYSICS 101 (5 semester hours) and PHYSICS 102 (5 semester hours).  
Scores of 3 make students eligible to enroll in PHYSICS 101 or take a proficiency examination for that course. If an A or B grade is earned in the course or the proficiency examination, credit will be awarded for PHYSICS 101 and 102.  
Scores of 2 make students eligible to take a departmental proficiency examination for PHYSICS 101, 102, 106, or 108.

**Physics C**

Scores of 5 and 4 will receive credit as follows:

*Part I—Mechanics:* PHYSICS 106 (4 semester hours).

*Part II—Electricity and Magnetism:* PHYSICS 107 (4 semester hours).

Scores of 3 are handled as follows:

*Part I*—Students may take a departmental proficiency examination for PHYSICS 106 or enroll in that course.

*Part II*—Students may take a departmental proficiency examination for PHYSICS 107 or enroll in that course.

Scores of 2 in Part I or Part II make students eligible, upon prior approval of the Physics Department, to take a departmental proficiency examination in PHYSICS 101, 102, 106, 107, or 108.

For additional information or to arrange to take a departmental proficiency examination, students should go to 233 Loomis Laboratory of Physics.

**Music****MUSIC THEORY**

A score of 5 receives credit for MUSIC 101 (3 semester hours).  
Credit is not given for scores of 4, 3, and 2.

**Psychology**

Scores of 5 and 4 receive credit for PSYCH 100 (4 semester hours).  
Credit is not awarded for scores of 3 and 2.

**Social Studies****AMERICAN HISTORY**

Scores of 5 and 4 receive credit for HIST 151 (3 semester hours) and HIST 152 (3 semester hours).  
Credit is not awarded for scores of 3 and 2. Students should sign up in 309 Gregory Hall for the History 151 and/or History 152 departmental proficiency exam.

**EUROPEAN HISTORY**

Scores of 5 and 4 receive credit for HIST 111 (3 semester hours) and HIST 112 (3 semester hours).  
Credit is not awarded for scores of 3 and 2. Students should sign up in 309 Gregory Hall for the History 111 and/or History 112 departmental proficiency exam.

**INTERNATIONAL BACCALAUREATE EXAMINATIONS**

The International Baccalaureate (IB) Program, sponsored by a Swiss foundation, offers a curriculum covering either the last two years of secondary education or the twelfth and thirteenth grades in a thirteen-grade system. Successful completion of the program is based on the completion of course work and passage of internationally prepared examinations. The examinations are written at two levels of study: High Level, administered after a minimum of 240 hours of teaching time in a subject; and Subsidiary Level, administered after a minimum of 160 hours of teaching time in a subject.

The University of Illinois at Urbana-Champaign will award proficiency credit to new, continuing, and transfer students on the basis of scores from several International Baccalaureate examinations: anthropology, biology, chemistry, classics (Latin and Greek), economics, French, German, history, and philosophy. University departments establish policies for awarding proficiency credit and advanced placement for each score on the IB scale of 1 to 7. Those wishing to have such examination scores evaluated should request that official score transcripts be sent to the Division of Measurement and Evaluation, University of Illinois at Urbana-Champaign, 247 Armory Building, c/o 182 Armory Building, 505 East Armory Avenue, Champaign, IL 61820.

The University of Illinois at Urbana-Champaign may accept, for transfer purposes, IB credit awarded by another institution if the transfer student meets two requirements: (1) the student must have earned at least 12 semester hours of graded college-level classroom credit at that same institution or campus, and (2) the student must have earned classroom credit for a more advanced course in the same subject area at that same institution. The advanced course must be fully acceptable under University of Illinois at Urbana-Champaign transfer credit policies. Transfer students who have not met these requirements may request that official copies of their scores be sent to the Division of Measurement and Evaluation. Such scores will be evaluated using the same standards applied to the scores of continuing students at the University.

The specific credit and placement policies for International Baccalaureate examinations recognized by this campus are given below. This information is subject to change upon annual review by each department concerned.

**Anthropology**

High and Subsidiary Levels: Scores of 7 and 6 receive credit for Anthropology 103 (4 semester hours).

**Biology**

High Level: Scores of 7 and 6 receive credit for BIOL 120 and 121 (10 semester hours).



Subsidiary Level: Scores of 7 and 6 receive credit for BIOL 104 (4 semester hours).

### Chemistry

High Level: Scores of 7 and 6 receive credit for CHEM 101 and either Chemistry 102B or CHEM 102P (8 semester hours).  
Subsidiary Level: No credit is granted.

### Classics—Latin

High Level: Scores of 7 and 6 receive credit for LAT 103, 104, and 201 (11 semester hours).  
Subsidiary Level: Scores of 7 and 6 receive credit for LAT 103 and 104 (8 semester hours).

### Classics—Greek

High Level: Scores of 7 and 6 receive credit for GRK 101, 102, and 201 (12 semester hours).  
Subsidiary Level: Scores of 7 and 6 receive credit for GRK 101 and 102 (8 semester hours).

### Economics

High and Subsidiary Levels: Scores of 7 and 6 receive credit for ECON 102 and 103 (6 semester hours).

### French

High and Subsidiary Levels: Scores of 7 and 6 receive credit for FR 207 and 210 (6 semester hours); scores of 5 receive credit for FR 210 (3 semester hours).

### German

High and Subsidiary Levels: Scores of 7 and 6 receive credit for GER 211 and 231 (6 semester hours).

### History

High Level: Scores of 7 and 6 receive credit for HIST 112 and 152 (6 semester hours).  
Subsidiary Level: No credit is granted.

### Philosophy

High and Subsidiary Levels: Scores of 7 and 6 receive credit for PHIL 101 (3 semester hours).

## PROFICIENCY EXAMINATIONS

Proficiency examinations are offered in most courses open to freshmen and sophomores. A student may take proficiency examinations in more advanced undergraduate courses on recommendation of the head or chairperson of the department in which the course is offered and approval of the dean of the student's college. Departmental proficiency examinations are administered in individual sessions or scheduled group sessions during the semester. Departmental offices can provide information regarding test dates, places of administration, types of examination, and references that might be used when preparing for examinations. Course descriptions and prerequisites are listed in the *Courses* catalog. (See the inside back cover of this publication for locations at which the *Courses* catalog may be obtained.) Proficiency examinations are generally given without cost to students, but fees may be charged to defray the cost of proficiency examinations prepared by agencies outside the University.

All regulations governing proficiency examinations will be applied in the context that the University must reasonably accommodate a student's religious beliefs, observances, and practices in regard to scheduling of proficiency examinations if the student informs the person responsible for the scheduling of such examinations of the conflict within one week after being informed of the examination schedule. Any student may appeal an adverse decision.

An enrolled undergraduate student who passes a proficiency examination is given credit toward graduation for the amount regularly allowed in the course (1) if it does not duplicate credit counted for admission to the University or credit earned through some other testing program and (2) if it is acceptable in the student's curriculum. No official record is made of failures in these examinations, but some departments may keep records to prohibit students from retaking the examinations. General campus policy information regarding proficiency examinations can be found in the *Code on Campus Affairs* and *Handbook of Policies and Regulations Applying to All Students*.

Transfer students should consult page 16 for the policy on acceptance of proficiency credit for admission purposes.

## COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

This program exists for the purpose of awarding proficiency credit, or otherwise recognizing college-level competence achieved outside the college classroom. Two types of tests are available: (1) the general examination covers the broad content of a study that might be expected to be covered by several introductory-level courses, and (2) the subject matter examination covers the specific content of a single college course. Credit can be earned and will be recognized by the University of Illinois at Urbana-Champaign for some CLEP General Examinations, but credit is *not* awarded for any of the CLEP Subject Matter Examinations.

Most students must fulfill general education requirements for degree purposes in four areas: humanities, social science/history, biological science, and physical science. CLEP General Examinations in humanities and social science can be used to earn waivers of the corresponding general education requirements, or parts of them, and to earn degree credit. Credit is not awarded by the University for scores from the CLEP General Examinations in English composition, mathematics, or natural science. A CLEP test provides an opportunity for a student to demonstrate knowledge in a general subject area that is as thorough as that required of a graduate who has not majored in that particular area. General education requirements are designed to ensure that graduates of the University are generalists as well as specialists. The University recognizes that this general knowledge may have been acquired by entering students through high school work, independent study, extracurricular reading, projects, or work experience. CLEP General Examination scores can be used to earn 3 or 6 credit hours and waiver of all or part of the requirement in each of the two general education areas. College policies vary in terms of the tests that are acceptable for earning credit and waiver, and in terms of the scores required for partial or complete waiver of a requirement.

Students may take CLEP examinations at any CLEP National Testing Center designated by the Educational Testing Service (ETS), Box 966, Princeton, New Jersey 08540. Official score reports should be sent by ETS to coordinator, Placement and Proficiency Testing, University of Illinois at Urbana-Champaign, 247 Armory Building, c/o 182 Armory Building, 505 East Armory Avenue, Champaign, IL 61820. Locations of CLEP National Testing Centers and test administration dates may be obtained by writing to ETS, or by inquiring at most college and high school counseling offices.

CLEP test scores earned by beginning freshmen at the Urbana-Champaign campus, including students with less than 12 semester hours of transferable classroom credit attempted at other collegiate institutions, are evaluated for credit according to norms established for the campus. Transfer students should refer to the section on Acceptance of Nontraditional Transfer Credit on page 16 for the policy on accepting credit earned through CLEP examinations.

CLEP examination scores reported by the Defense Activity for Non-Traditional Education Support (DANTES) testing centers will be evaluated against the same criteria that are applied to continuing students on the Urbana-Champaign campus.

## CAMPUS HONORS PROGRAM

The Campus Honors Program (CHP) offers special challenges and opportunities to a small number of academically talented and highly motivated undergraduate students. It fosters collaborative relationships between students and distinguished faculty through small intensive classes, a faculty mentor system for introducing students to the intellectual standards and methodologies of academic disciplines, and informal contacts encouraged by cocurricular offerings. CHP sponsors four series of noncredit cocurricular events: A "Scholar Adventurers" lecture series on faculty research; a "Study Abroad at Home" series of seminar-workshops centering on other cultures; a series of dress-rehearsal visits at Krannert Center for the Performing Arts; and an "International Tasting Club" lunch series. The aim is to encourage breadth and excellence from the outset of the student's college career, and to facilitate interaction with scholars at the cutting edge of their disciplines.

Only approximately 100 new students can be admitted to the CHP each year as first-year students. A few additional students, however, may join the program on an off-cycle basis at the beginning of the sophomore year. Designated as Chancellor's Scholars, CHP students may be enrolled in any undergraduate curriculum. Those who meet retention requirements continue as Chancellor's Scholars throughout

their undergraduate career. Required CHP course work is concentrated in the freshman and sophomore years when students take intensive and specialized versions of general education courses. At the junior and senior level, when students are necessarily involved in their majors, they are required to take one advanced CHP seminar. In short, because the CHP is directed at students who desire an undergraduate education that is broad and general as well as professionally specialized, the emphasis is on fundamental principles and interdisciplinary connections.

It is important to understand what CHP is not, as to understand what it is. CHP courses represent additional opportunities for academically gifted and adventurous students; they are not an alternative curriculum. Basically, they provide an honors-quality way of satisfying general education requirements for graduation and of helping students to discover the interrelations between their own discipline and other disciplines. Nor does CHP supplant or conflict with departmental honors programs. In consultation with their departmental academic advisers, Chancellor's Scholars develop their own combination of regular and CHP courses. Accordingly, most of the courses CHP students take are regular University offerings.

Most importantly, CHP is a challenge. A Chancellor's Scholar must make a special commitment to the intellectual life, and to the dialogue and community in the Honors House.

### BENEFITS

As a small general studies program within a large state university, the Campus Honors Program seeks to combine the advantages of a major public institution with those of a small liberal arts college. Opportunities offered by the program include:

- Challenging courses designed especially for CHP students with limited enrollment (usually fifteen students or fewer),
- Summer grants to fund student research projects (\$1,000 and to support student domestic and foreign travel (\$500 and \$1,000, respectively),
- A variety of social and intellectual activities outside the classroom, including cultural events and seminars on topics of interest,
- Access to the University Library stacks,
- Transcript notation of Chancellor's Scholar status,
- Access to computer facilities in the Honors House and to a specially developed communications network,
- Orientation and senior sibling programs for incoming students,
- Honors House, the honors student center, which offers an atmosphere conducive to study and relaxation,
- Priority registration for classes, and
- Interaction with an outstanding group of peers.

### ADMISSION

Entering freshmen with high ACT/SAT scores and exceptional high school records are invited by CHP to apply for admission to the program, but any incoming or currently enrolled freshman may ask to be considered. Acceptance is based upon such factors as standardized test scores, high school class rank and grade-point average, evidence of creative and leadership abilities as displayed in extracurricular interests and activities, the strength of application essays, and evidence of willingness to accept CHP challenges and contribute to the program. The Honors Program is open to students in all majors offered on the Urbana-Champaign campus, and an effort is made to ensure that each incoming class of Chancellor's Scholars is broadly representative of the curricula of the University as a whole. Students who are strongly motivated not only to excel, but also to make a difference at Illinois are sought for Chancellor's Scholars.

For additional information or to obtain an application form, contact the Campus Honors Program, University of Illinois at Urbana-Champaign, 1205 West Oregon Street, Urbana, IL 61801; (217) 244-0922. For full consideration, completed applications should be received by February 1 for admission the following fall.

### EDMUND J. JAMES UNDERGRADUATE HONORS PROGRAMS

Undergraduate honors programs, named for one of the University's distinguished presidents, Edmund J. James, provide a number of special curricular opportunities to academically talented undergraduate students. Designation by the University as "James Scholars" recognizes students of extraordinary ability and achievement. It entitles students to certain academic privileges, including the extended

use of library facilities, and charges them with the responsibility for seeking sustained intellectual achievement throughout their undergraduate careers. James Scholar honors students are characterized by outstanding academic records; high general aptitudes for college work; and reputations for seriousness of purpose, persistence, and self-discipline in educational endeavors.

A student electing to participate in the program may enroll in any undergraduate curriculum; unusual academic arrangements are open to James Scholar honors students in all courses of study. These arrangements include provision of honors courses and sections, special seminars, and interdisciplinary colloquia. In addition, James Scholars are encouraged to pursue individual scholarly interests through independent study and research projects. Administrative coordination of all undergraduate honors programs is currently conducted by the Office of Admissions and Records. There is no monetary award associated with this program, and students who need financial assistance should apply to the Office of Student Financial Aid.

### NOMINATION PROCEDURES

Academic requirements for participation in the program are determined by the respective colleges. Undergraduates in most colleges may "self-nominate" into the program, provided that the decision is based on prior achievement and on high school and college faculty or administrative advice, and is accomplished prior to the terminal dates set for entry into academic programs leading to honors degrees. In the College of Liberal Arts and Sciences, entering students with higher than a predetermined college selection index are automatically admitted as James Scholar Designates. (See page 123 for further information regarding James Scholar honors students in Liberal Arts and Sciences.) Students may elect to leave the program or may be removed for failure to meet standards of academic performance in the various colleges.

During summer advance enrollment, freshmen in most colleges will receive additional information regarding specific college programs leading to honors degrees. At that time, in consultation with an adviser, a student may self-nominate into the program and select an honors course or plan other honors activities.

Although the honors program in each college varies in detail, any incoming freshman electing to undertake an honors program will enter the University as a James Scholar Designate. After completion of a period on campus, each designate's record will be reviewed by his or her college. The student then will be invited to continue as a full James Scholar honors student or advised to leave the program on the basis of criteria developed by the college. Resident and transfer students wishing to self-nominate into the program should inquire at their college offices.

### JAMES SCHOLAR RECOGNITION

Successful performance for one year as a James Scholar honors student is recognized and recorded on the student's University record as Edmund J. James Scholar (year).

Specific inquiries regarding the honors program of a particular college may be addressed to the college office in care of the honors dean.

### HONORS CREDIT LEARNING AGREEMENTS

It is not expected that a James Scholar honors student will take a full schedule of special courses; however, at least one honors activity each semester is considered normal. To encourage sustained independent intellectual activity by superior students, the campuswide Honors Credit Learning Agreement Program enables students to earn officially recognized honors credit in regular undergraduate courses. This is accomplished by a learning agreement between student and instructor whereby the student undertakes a special course-related project. Upon successful completion of the project, the student is awarded transcript-designated honors credit for the course. Forms for initiation of honors credit learning agreements are available in the college offices.

### TRANSITION PROGRAM

Established in 1986, the Transition Program is a campus-sponsored academic support program designed to provide assistance to a group of 100 students admitted each year who have academic weaknesses that could place them "at risk" if they were permitted to enter the University without such assistance. The goal of the program is to provide students with a "home base" where they feel comfortable

about asking questions, expressing their concerns, and receiving the support, advice, and encouragement they need to be academically successful at, and to graduate from, the University of Illinois. Students are consistently encouraged to succeed; more important, they are shown *how* to succeed in the college classroom.

These bright and talented students are admitted to the University through the Educational Opportunities Program and placed in the Transition Program, housed in the College of Liberal Arts and Sciences, where they will receive developmental academic support for two years. After a student has successfully completed four semesters in the Transition Program, an admission space is reserved in the college and/or curriculum of his or her choice, if the student is in good academic standing (C average or better) and has completed the required core courses for admission to that college and/or curriculum.

The Transition Program is divided into two major components—the Summer Bridge component and an academic year component. Both components provide the student with

1. Intensive academic and career counseling.
2. Extensive academic and personal support services plus opportunities to enroll in support-based sections of existing courses.
3. Comprehensive developmental skills as well as enhancement and enrichment activities.

Only those students who officially apply to the University in the standard manner prescribed by the Office of Admissions and Records and who meet established campus and program deadlines for application will be considered for admission and placement in the Transition Program. The final decision on which students will be admitted and placed in the Transition Program is the joint responsibility of the director of the Office of Admissions and Records and the director of the Transition Program, acting on behalf of the College of Liberal Arts and Sciences.

#### GENERAL CRITERIA FOR PLACEMENT IN THE TRANSITION PROGRAM

An applicant with a score of 17 or lower on the ACT English subtest area (320 on the SAT Verbal subtest area) or a score of 17 or lower on the ACT mathematics subtest area (350 on the SAT Math subtest area) is eligible for admission consideration through participation in the Educational Opportunities Program and placement in the Transition Program. In some cases, an interview with a Transition Program staff member may be required before an admission decision can be reached.

#### BRIDGE ADMISSION

An applicant with a score of 15 or lower on the ACT English subtest area or a score of 16 or lower on the ACT mathematics subtest area is eligible for admission consideration only through participation in the Educational Opportunities Program and placement in the Summer Bridge component of the Transition Program, unless there is strong evidence that participation in Summer Bridge is not necessary for the applicant's success. (Other applicants may be invited or required to participate in the Transition Program or the Summer Bridge component if, in the judgment of the director of the Office of Admissions and Records and the director of the Transition Program, such participation is necessary for the applicants' success at the University.)

A student who meets Summer Bridge criteria will be required to complete diagnostic tests designed for the Transition Program, followed by a personal interview with a program staff member before an admission decision can be reached.

Eligibility of Summer Bridge participants to continue enrollment in the fall semester is contingent upon acceptable academic performance in the summer program and recommendation by the director of the Transition Program.

#### THE SUMMER BRIDGE COMPONENT

Each summer, 50 of the 100 students selected for placement in the Transition Program are required to participate in a six-week residential summer session on the UIUC campus sponsored by the College of Liberal Arts and Sciences. The session engages these students in intensive course work in mathematics, composition, and basic skills development. In addition, Summer Bridge participants are provided with a variety of cultural enrichment activities and orientation to University resources, support services, and campus living.

The Summer Bridge experience is provided at no cost to the students. Each participant receives institutional financial assistance to cover the cost of tuition, room, board, and books. In addition, with the exception

of students who will participate in intercollegiate athletics and who are not eligible for such added financial assistance under current National Collegiate Athletic Association regulations, each participant receives a stipend of a modest weekly allowance and a lump-sum payment at the end of the summer session.

Each Summer Bridge participant must successfully complete all course work with a grade of C or better before gaining admission for the fall semester. The Bridge experience offers students an invaluable opportunity to get a head start on their undergraduate education and to make important adjustments to the multiple demands of college life, including learning the difference between *getting by* and *getting ahead*. At the end of Summer Bridge, each student fully understands the relationship between hard work and success in the college classroom: the summer experience makes a significant difference!

#### THE ACADEMIC YEAR COMPONENT

Each fall, the successful Summer Bridge participants join the 50 other newly admitted Transition Program students. Each of the 200 Transition Program students (including 100 returning sophomores) is assigned to an adviser who is a graduate or professional student at the University. Each graduate adviser is responsible for providing academic, career, and personal counseling to a group of twenty students; each student is required to meet with his or her graduate adviser at least once a week. The graduate advisers, along with the director and associate director of the program, carefully monitor the academic progress of the students daily to ensure their success.

In cooperation with various departments and colleges on campus, the Transition Program sponsors special sections of existing courses that are tailored to meet the students' individual needs. These courses are small and allow for extensive teacher-student interaction; in addition, the instructors for these courses meet regularly with the program staff and submit weekly reports on the progress of the students. At no cost to the students, additional academic support is provided by the Office of Minority Student Affairs (see page 3).

#### ADDITIONAL INFORMATION

Additional information about the Transition Program may be obtained by contacting the office of the director of the Transition Program, College of Liberal Arts and Sciences, 270 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801, (217) 244-1588.

### EDUCATIONAL OPPORTUNITIES PROGRAM

#### GENERAL NATURE AND PURPOSE

The Educational Opportunities Program (EOP), administered by the Office of Minority Student Affairs (see page 3), provides academic services and counseling support to students who (1) are academically underprepared or (2) come from backgrounds that are underrepresented on the Urbana campus. The program's emphasis is on supporting incoming students identified by the Office of Admissions and Records and college offices as being academically at risk in their preferred curricula.

Students in the program, along with many other students, receive financial support from federal loans and grants, Illinois Student Assistance Commission Monetary Awards, and University tuition waivers. They also contribute toward their expenses through family contributions, summer and part-time employment, and personal loans. Supportive services for the program are provided by federal and University funds.

Through the Educational Opportunities Program, the University is attempting to:

- Admit students who otherwise might not be able to undertake a college-level program at a major educational institution, and assist them in completing a baccalaureate degree. Participants receive the same benefits as other students and additional support if required.
- Increase the number of students from ethnic minority groups underrepresented on campus.
- Develop educational programs and policies, both academic and administrative, that will assist and support students in the program and that may well benefit all students.
- Provide students not in the program the vital cultural and social experience of meeting, living with, and learning from students from other cultures.
- Add ethnic diversity to the campus.



- Provide and disseminate to other educational institutions and agencies information that will increase their ability to deal with educational and sociological problems of students from nontraditional backgrounds.
- Provide information on securing financial aid, student employment, and postgraduate opportunities to program participants.

#### ADMISSION REQUIREMENTS

Admission to the Educational Opportunities Program is limited to applicants from Illinois who are educationally or economically disadvantaged and who fall into one of the following categories:

- Beginning freshmen who meet the high school subject pattern requirements and the high school rank and test score combinations prescribed for the colleges and curricula of their choice.
- Students not meeting the stated academic requirements, if the deans of the colleges concerned and the director of admissions and records (or their designated representatives) concur.

It should be noted that in some curricula, such as the performing arts and aviation, additional requirements must be met. (See page 13.)

#### SUPPORTIVE SERVICES

Supportive services are available to help Educational Opportunities Program students meet a wide range of needs, as follows:

- Extensive academic advising, taking into consideration students' past educational achievements, test results, abilities, and interests. The optimal class schedules and course selections are determined by students in consultation with special academic advisers in the various colleges.
- Specially designed course offerings, including basic courses in rhetoric, mathematics, and psychology, and special class sections in regular courses.
- A Reading and Study Methods Clinic and Writing Laboratory to help improve reading, writing, and study skills.
- A tutoring system conducted by faculty members and students to help students in the program effectively approach and master subject content.
- An office with a specially trained staff to provide academic, social, personal, financial, and career assistance and general counseling.
- Precollege orientation programs to help students gain a greater awareness of the programs and services available at the University.

#### APPLICATION

Applicants for participation in the Educational Opportunities Program must submit complete admission applications and arrange for their high school transcripts and test scores to be sent to the Office of Admissions and Records. They must also complete Financial Need Analysis Forms, indicating the desire to be considered for the Illinois Student Assistance Commission Monetary Award, the Pell Grant, and University aid.

Application forms and additional information about the program may be obtained from the Office of Admissions and Records.

#### SERVICES FOR STUDENTS WITH DISABILITIES

The design of the campus and the programming of the Division of Rehabilitation-Education Services afford students with physical disabilities access to all campus academic and extracurricular programs. Division services are available to students with disabilities and include physical therapy and functional training; counseling; transportation; prosthetics/wheelchair repair; textbook Braille, tape, and reader services; medical services; and many others. An extensive program of recreation and sports is also available. The division works closely with Campus Parking and the Housing Division to arrange appropriate housing and parking for students with disabilities.

Prospective students are urged to contact the division to request information about services and resources and how to arrange for them, and are strongly encouraged to visit campus and the Division of Rehabilitation-Education Services well in advance of enrollment to plan for their needs.

#### COURSE ATTENDANCE BY ILLINOIS HIGH SCHOOL STUDENTS

Qualified local high school students are permitted, while in high school, to attend University classes for college credit. They may also

enroll for college credit in correspondence and extramural courses offered by the University.

To qualify for high school and on-campus University concurrent enrollment, a student must be recommended by his or her high school principal and have a 4.5 (A = 5.0) grade-point average. Students are assessed tuition at the regular *undergraduate nondegree student* rates.

Courses taken by these students involve work over and above the secondary school curriculum. Grades and course credits will appear on their permanent University records and on official transcripts. If these students enter the University after high school graduation, the courses, if applicable, will be credited toward University graduation.

A student applying for on-campus admission under this program should be prepared to submit the following materials upon request:

- A \$30 check or money order payable to the University of Illinois, for the nonrefundable application fee.
- A nondegree application for admission to the University (not required of students who were previously enrolled under this plan).
- An official copy of the student's high school transcript covering all work completed in high school and courses in progress, together with ACT or SAT test score if available. Acceptance under this program does not guarantee later acceptance as a degree candidate.

Information and applications for this program may be obtained from the Office of Admissions and Records at the address on the inside back cover. A separate undergraduate admission application is required if a student desires to attend the University after high school graduation or under the Early Admission Program described in the next section.

A student interested in correspondence study should request information and an application form as described on page 17. It is suggested that students begin correspondence study to coincide with the start of a fall or spring semester at the University. Applications should be submitted before the beginning of a semester. For the summer session, applications should be submitted by the middle of May.

#### EARLY ADMISSION PROGRAM

Under the Early Admission Program, a high school student meeting competitive admission requirements *except receipt of a high school diploma* may be enrolled in the University after the junior year. This may reduce the length of the combined high school and college education by one year. Although each application is treated as a special admission case, a prospective student must have completed his or her junior year in high school, have earned 15 units toward a high school diploma, be in good academic standing, be recommended by a high school staff member who is able to evaluate the student's work, and meet competitive admission standards. Those accepted in the program are enrolled in regular four-year curricula and treated as first-year students.

A student interested in this program may apply for admission no sooner than January preceding the fall term of planned entry so that the application can include complete information about the student's fall semester. However, application should be completed as soon as possible after January 1.

For complete information, contact the Office of Admissions and Records at the address on the inside back cover.

#### DELAYED ADMISSION

A person approved for admission may request that the admission be delayed for a maximum of one year to allow participation in nonacademic pursuits. An applicant who wishes to consider this alternative should request further information from the Office of Admissions and Records at the time that he or she accepts the admission offer since the program is limited.

#### CONCURRENT ENROLLMENT

A student in good academic standing at Parkland College or at the University of Illinois at Urbana-Champaign may concurrently enroll in courses offered by the other institution if such courses are not available at the student's primary campus. Prior written approval for concurrent enrollment must be obtained from the dean of students at

Parkland College and the concerned college office at the University campus.

A concurrent enrollee is a part-time nondegree student at the secondary institution who pays the tuition and fees regularly assessed at that institution in accordance with the amount of work taken. The application fee is waived.

## STUDY AWAY FROM CAMPUS

The University permits a student who has been enrolled on campus for at least a semester or summer session, with the approval of the student's adviser and the appropriate departmental and college offices, to undertake independent study away from campus either in the United States or abroad.

Colleges and departments may establish variable credit courses that permit students, upon payment of an appropriate fee, to continue enrollment in the University while studying away from campus. Final determination of credit is made by the department and college concerned.

Overseas study programs offered by each college are described in the individual college sections of this catalog.

## GRADING SYSTEM AND OTHER REGULATIONS

Academic, administrative, and conduct regulations are published in the *Code on Campus Affairs and Handbook of Policies and Regulations Applying to All Students*. Students are responsible for complying with these regulations of the University and those of the colleges and departments from which they take courses. This publication is available to students in the lobby of the Turner Student Services Building, in 177 Henry Administration Building, and at the Information Desk in the Illinois Union. A copy may also be obtained by writing to the Office of Admissions and Records.

### GRADING SYSTEM

Faculty members have the responsibility to provide the University with an individual evaluation of the work of each student in their classes. Final course grades are entered on the student's permanent University record at the close of each semester, term, or session. The University of Illinois at Urbana-Champaign uses the following grading system: A = excellent; B = good; C = fair; D = poor (lowest passing grade); E = failure, including courses dropped for academic irregularities; Ab = absent from the final examination without an acceptable excuse (counts as a failure). If a student is absent from a final examination and it is clear that taking the examination could not have resulted in a passing grade for the course, a grade of E may be given instead of Ab. In addition to the above grades, instructors in the College of Law are authorized to assign plus and minus grades.

### COMPUTATION OF SCHOLASTIC AVERAGES

For numerical computation of scholastic averages, the following values are designated: A = 5.0; B = 4.0; C = 3.0; D = 2.0; E and Ab = 1.0. (College of Law only: A = 5.0; A- = 4.67; B+ = 4.33; B = 4.0; B- = 3.67; C+ = 3.33; C = 3.0; D = 2.0; E and Ab = 1.0.)

### UNIFORM METHOD FOR CALCULATION

A uniform method for calculating undergraduate grade-point averages has been established for all undergraduate colleges on the Urbana-Champaign campus. These averages are calculated on the basis of all courses attempted for which grades and credits are assigned and that carry credit in accordance with the *Courses* catalog. Since courses offered by the religious foundations on or near the Urbana-Champaign campus are not official University courses and are not included in the *Courses* catalog, the grades earned in such courses will not be included in the calculation of any grade-point averages. Grades of S, U, CR, NC, and Pass (see next section on Other Symbols in Use) are reported on official University transcripts but are not included in grade-point averages since grade-points are not assigned to these letter grades. This method of calculation is used to determine honors, probation and drop status, financial aid and scholastic awards, and transfer between colleges on this campus.

For the purpose of computing a grade-point average for graduation, only the grades received in those courses counting toward the degree, including grades in repeated courses, are included in the average. (See Grade-Point Requirements for the Bachelor's Degree on page 38.)

For the special method used to determine eligibility for transfer into the University, refer to the transfer admission policy on page 15.

### OTHER SYMBOLS IN USE (NOT INCLUDED IN THE COMPUTATION OF AVERAGES)

- W—Approved with withdrawal without credit.
- EX—Temporarily excused. Approved extension of time to complete the final examination or other requirements of the course. Applies to *both* undergraduate and graduate students. Entitles the student to an examination later without fee, or additional time to complete other requirements of the course. (Only the dean of the student's college may authorize such an extension of time in an individual case. A grade of EX that is not removed by the end of the first eight weeks of instruction in the next semester in which the student is enrolled in an undergraduate college on the Urbana-Champaign campus automatically becomes a grade of E. If the student receiving an excused grade does not reenroll on the Urbana-Champaign campus, the excused grade, if not removed, becomes an E after one calendar year.)
- CR—Credit earned. To be used only in courses taken under the credit-no credit grading option. (Instructors report the usual letter grades. Grades of A, B, and C will automatically be converted to CR.)
- NC—No credit earned. To be used only in courses taken under the credit-no credit grading option. (Instructors report the usual letter grades. Grades of D, E, and Ab will automatically be converted to NC.)
- IP—Course in progress.
- Miss—Missing grade. Instructor has failed to submit a grade for the student.
- DF—Grade temporarily deferred. To be used only in those thesis, research, and special problems courses extending over more than one semester that are taken by graduate students as preparation for the thesis and by undergraduate students in satisfaction of the requirements for graduation with honors, and in other approved courses that extend over more than one semester. (Requests for use of the DF grade in courses that extend over more than one semester, and therefore require postponement of the final grade report, must be submitted in writing by the executive officer of the department offering the courses to the dean of the appropriate college for concurrence. A current list of courses that have received such approval is maintained in the Office of Admissions and Records.)
- S—Satisfactory, and
- U—Unsatisfactory. To be used only as final grades in graduate thesis research courses, in graduate and undergraduate courses given for zero credit, and in other courses that have been specifically approved by the head or the chairperson of the department concerned, with concurrence of the appropriate college dean. A current list of courses that have received such approval is maintained in the Office of Admissions and Records.
- Pass—To be used only in courses passed by special or proficiency examinations. A minimum grade of C is required to pass.

### CREDIT-NO CREDIT GRADING OPTION

The credit-no credit grading option is designed to encourage students to explore areas of academic interest that they might otherwise avoid for fear of poor grades. All students considering this option are cautioned that many graduate and professional schools consider applicants whose transcripts bear a significant number of nongrade symbols less favorably than those whose transcripts contain none or very few. Likewise, in computing a preadmission grade-point average, some of these schools may convert the NC symbol into a failing grade since they do not know whether the actual grade was a D, E, or Ab.

A full-time undergraduate student in good academic standing (not on probation) may, with the approval of his or her adviser, take a maximum of two courses each semester under the credit-no credit grading option. Part-time students may take one course each semester under this option. Summer session students may take one course under the credit-no credit option.

A maximum of 18 semester hours earned under the credit-no credit grading option may be applied toward a baccalaureate degree at the Urbana-Champaign campus of the University. A correspondence course taken on a credit-no credit basis will be included in the 18-semester-hour credit-no credit limit.

Any lower- or upper-division course may be chosen under the credit-no credit option except courses used to satisfy the University's general education requirements, courses designated by name or area by the major department for satisfying the major, and those specifically required by name by the college for graduation. In cases of subsequent change of major, courses previously taken under the credit-no credit option in the new field may qualify for meeting major requirements.

For a course taken in residence, undergraduate students must exercise the credit-no credit option only during on-campus registration, within the first eight weeks of instruction in a semester, during the first four weeks of an eight-week course taught in a fall or spring semester, during the first two weeks of instruction in the four-week summer term, or during registration or within the first four weeks of instruction in the eight-week term. Students may elect to return to the regular grade option by filing an amended request within the first eight weeks of instruction in a semester, within the first four weeks of instruction in an eight-week course taught during a semester, during the first two weeks of instruction in the four-week summer term, or within the first four weeks of instruction in the eight-week summer term. The credit-no credit option form must be properly approved and deposited in the college office.

Instructors are not informed of those students in their classes who are taking work under the credit-no credit option, and they report the usual letter grades at the end of the course. These grades are automatically converted to CR or NC. Grades of C or better are required in order to earn credit. Credit-no credit courses are not counted toward the grade-point average but are included as part of the total credit hours. Final grades of CR or NC (for credit or no credit) are recorded on the student's permanent academic record and subsequently will not be changed to letter grades.

## CLASSIFICATION OF STUDENTS

Classification of an undergraduate student is made by the Office of Admissions and Records based upon the number of credit hours earned, which includes credit earned by examination or accepted for transfer by the University whether or not such credit is applicable to a student's degree program. Classification for registration, certification, and assessment purposes is based on the following scale.

Freshman standing	0-29.9 hours
Sophomore standing	30-59.9 hours
Junior standing	60-89.9 hours
Senior standing	90 or more hours

## TRANSCRIPTS OF ACADEMIC RECORDS

Former and currently enrolled students who have paid their University charges are entitled to receive, upon written request, transcripts of their academic records. Upon graduation or withdrawal from the University, any student with an outstanding loan is not issued a transcript until he or she has completed an exit interview with the Office of Student Accounts and Cashiering. Each transcript includes a student's entire academic record to date and current academic status. Partial transcripts are not issued.

The charge for an official transcript is \$5 per copy. The charge for a written certification of enrollment or other data is \$4 per copy. The charge for additional copies ordered at the same time and sent to the same address or picked up is \$2 per copy.

A student who submits an application for direct transfer admission to the University of Illinois at Chicago through the Urbana admissions office, 177 Henry Administration Building, will have a transcript included with it at no charge.

Telephone requests for transcripts cannot be honored. Transcripts are released only by written request to whom-ever students or former students designate. A written request accompanied by a check or money order made payable to the University of Illinois should be sent to the Office of Admissions and Records (see the inside back cover for address information).

## STUDENT RECORDS POLICY

It is University policy to comply fully with the Family Educational Rights and Privacy Act of 1974 as amended. Guidelines and regulations for discharge of the University's obligation under this act are contained in the *Code on Campus Affairs and Handbook of Policies and*

*Regulations Applying to All Students*, available to students at 177 Henry Administration Building as well as by request from the Office of Admissions and Records.

Under these guidelines:

- Certain student records may be released only with the prior consent of the student.
- Certain student records can be released with or without the student's consent.
- Under certain conditions, parents may be granted access to a student's record with or without the student's consent.
- A student has the right to inspect his or her educational record.
- Procedures exist for students to challenge the contents of their educational records.
- The University may release without the student's consent information that appears in student directories and publications that are available to the public, except when a currently enrolled student requests that the University suppress this information.

A currently enrolled student may elect to suppress either personal information or academic information or both categories of directory information. To be effective for a term, a request form must be submitted to the Office of Admissions and Records (Window 25, Room 100, Henry Administration Building) by the end of the fifth class day of the term. The University will continue to suppress this information until the student withdraws the request or fails to enroll in a subsequent term, excluding summer terms.

For former students, directory information includes the student's name; date of birth; last known addresses and telephone numbers; college, curriculum, and major field of study; dates of attendance and full- or part-time status; class level; honors; certificates or degrees earned at the University and the date(s) conferred; weight and height for athletic team members; participation in officially recognized activities and sports; and institutions previously attended.

## FALSIFICATION OF DOCUMENTS

Any student who, for purposes of fraud or misrepresentation, falsifies, forges, defaces, alters, or mutilates in any manner any official University document or representation thereof may be subject to discipline. Some examples of official documents are identification cards, receipts, transcripts of credits, library documents, and petitions for change in residence status. Any student who uses computing facilities to interfere with computing systems or who uses another identification to gain access to computing systems may be subject to discipline.

Any applicant who knowingly withholds information or gives false information on an application for admission or readmission may become ineligible for admission to the University or may be subject to discipline.

Any student who knowingly withholds information or gives false information in any document or materials submitted to any member or agent of the University may be subject to discipline.

## IDENTIFICATION CARDS

Each new student is issued a permanent photo identification card, which must be retained by the student while registered at the University. The ID card remains the property of the University, and any student who alters or intentionally mutilates a University ID, who uses the ID of another, or who allows his or her own ID card to be used by another may be subject to discipline.

A charge of \$20 (amount subject to change) is assessed for replacing each lost, mutilated, confiscated, or stolen photo ID card. Questions regarding the issuance of ID cards may be directed to the Campus ID Center, 244-0135.

## STUDENTS IN DEBT TO THE UNIVERSITY

A penalty of \$15 (amount subject to change) is assessed for each check students present to the University that is returned for insufficient funds or another reason. Additional penalties, including dismissal from the University, may be imposed on students who permit their University accounts to become delinquent or who issue checks that are returned to the University unpaid.

Students who are in debt to the University at the end of any academic term may not be permitted to register in the University again. They are not entitled to receive diplomas, official statements, or



transcripts of credits until the indebtedness has been paid or suitable arrangements for payment have been made, unless there are pending bankruptcy petitions of the students seeking a discharge of all such indebtedness or all such indebtedness has been discharged.

### **AUTOMOBILES, MOTORCYCLES, MOTOR SCOOTERS, BICYCLES, AND MASS TRANSIT**

All students, their spouses, and dependent children with valid vehicle operator permits to operate automobiles, motorcycles, motor scooters, and bicycles in Illinois may operate them on the Urbana-Champaign campus, provided they comply with University and state regulations. Public parking facilities are extremely limited near the campus. Unless students register their cars with the University, there is little opportunity for them to park near the campus when classes are in session or overnight. By registering their motor vehicles with the University (a fee is charged), students may park or store their vehicles either in some University parking lots or on some University streets. A permit to park or store a car in University rental lots requires payment of an additional fee. Bus service to the University is provided by the C-U MTD. For route, schedule, and fare information, call MTD at 384-8188.

Information about the operation of motor vehicles and bicycles by students is available from the Division of Campus Parking and Transportation, University of Illinois at Urbana-Champaign, Room 201, 1110 West Springfield, Urbana, IL 61801, (217) 333-3530.

## **GRADUATION REQUIREMENTS**

### **BACHELOR'S DEGREES AND CERTIFICATES CONFERRED**

A candidate for a bachelor's degree must meet University requirements with respect to registration, residence, general education, and English, and the minimum scholarship requirements of the student's college or division; must pass the subjects prescribed in his or her curriculum; and must conform to the requirements of that curriculum in regard to electives and the total number of hours required for graduation.

The Senate Committee on Student Discipline has the right to withhold the conferral of a degree. When dismissal from the University is a possibility because of a disciplinary infraction, the conferral of the degree is withheld until the disciplinary action has been resolved.

### **BACHELOR'S DEGREES**

Baccalaureate degrees conferred at the Urbana-Champaign campus with the minimum number of hours required for graduation are listed below.

HOURS	UNDERGRADUATE COLLEGE
	<b>COLLEGE OF AGRICULTURE</b>
	Bachelor of Science (B.S.) in
126	Agriculture
130	Agriculture (Agriculture Education major)
130	Food Industry
130	Food Science
126	Forestry
120	Human Resources and Family Studies (Majors in marketing of textiles and apparel, textiles and apparel, and consumer economics)
126	Human Resources and Family Studies (Majors in dietetics, foods and nutrition, foods in business, human development and family studies)
130	Ornamental Horticulture
126	Restaurant Management
	<b>COLLEGE OF APPLIED LIFE STUDIES</b>
	Bachelor of Science (B.S.) in
128	Community Health
126	Leisure Studies
128	Kinesiology
128	Speech and Hearing Science
	<b>COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION</b>
	Bachelor of Science (B.S.) in
124	Accountancy
124	Business Administration
124	Economics
124	Finance

	<b>COLLEGE OF COMMUNICATIONS</b>
	Bachelor of Science (B.S.) in
124	Advertising
124	Journalism
124	Media Studies

	<b>COLLEGE OF EDUCATION</b>
	Bachelor of Science (B.S.) in
126	Business Education
128	Early Childhood Education
124	Elementary Education
128	Occupational and Practical Arts Education
120	Secondary Education
124	Special Education

	<b>COLLEGE OF ENGINEERING</b>
	Bachelor of Science (B.S.) in
134	Aeronautical and Astronautical Engineering
128	Agricultural Engineering
132	Ceramic Engineering
133	Civil Engineering
128	Computer Engineering
122	Computer Science
128	Electrical Engineering
128	Engineering Mechanics
128	Engineering Physics
127	General Engineering
130	Industrial Engineering
130	Materials Science and Engineering
130	Mechanical Engineering
128	Metallurgical Engineering
127	Nuclear Engineering

	<b>COLLEGE OF FINE AND APPLIED ARTS</b>
	Bachelor of Fine Arts (B.F.A.) in
130	Art Education
122	Crafts
130	Dance
122	Graphic Design
122	History of Art
130	Industrial Design
122	Painting
122	Photography
122	Sculpture
128	Theater
128	Bachelor of Landscape Architecture (B.L.A.)
130	Bachelor of Music (B.Mus.)
	Bachelor of Science (B.S.) in
127	Architectural Studies
130	Music Education
120	Bachelor of Arts in Urban Planning (B.A.U.P.)

	<b>COLLEGE OF LIBERAL ARTS AND SCIENCES</b>
	Bachelor of Arts (A.B.) in
120	Liberal Arts and Sciences
128	Teaching of English
120	Teaching of French
120	Teaching of German
120	Teaching of Latin
123	Teaching of Russian
120	Teaching of Social Studies
123	Teaching of Spanish
132	Teaching of Speech
	Bachelor of Science (B.S.) in
120	Biochemistry
129	Chemical Engineering
120	Chemistry
126	Geology
120	Liberal Arts and Sciences
126	Physics
125	Teaching of Biology
130	Teaching of Chemistry
120	Teaching of Computer Science
131	Teaching of Earth Science
120	Teaching of Mathematics
132	Teaching of Physics

	<b>SCHOOL OF SOCIAL WORK</b>
120	Bachelor of Social Work

### **CERTIFICATES**

Certificates are conferred upon completion of each of the curricula listed below. A candidate for a certificate must meet the general requirements of the University with respect to registration and mini-

num scholarship requirements; successfully complete all prescribed subjects and special requirements for the student's curriculum; and conform to the requirements regarding electives and hours required for graduation. The semester hours required for certification are given below.

<b>HOURS</b>	<b>UNDERGRADUATE CURRICULUM</b>
65	<b>INSTITUTE OF AVIATION</b> Professional Pilot

### **GRADE-POINT REQUIREMENTS FOR THE BACHELOR'S DEGREE**

All candidates for a degree must have at least a 3.0 (A = 5.0) grade-point average on all University of Illinois at Urbana-Champaign credits counted for graduation requirements and at least a 3.0 grade-point average on the combined transfer and University of Illinois at Urbana-Champaign credits counted for graduation requirements. Certain colleges have established higher scholastic graduation requirements for specific curricula. (Grades in courses taken at the other campus of the University are counted as transferred.)

When a course has been repeated, both the original and subsequent grades are included in the average if the course is acceptable toward graduation, but the credit is counted only once. An original grade is not removed from the student's record for a course subsequently passed by special examination.

Students who do not meet the requirements stated above may graduate if they have the minimum grade-point average calculated by either of the following alternative methods:

- Courses in which grades of D or E have been recorded are excluded, not to exceed a total of 10 semester hours completed prior to the last 30 hours of work completed at the University of Illinois at Urbana-Champaign and counted for graduation requirements, or
- A grade-point average of no less than 3.1 is calculated for the last 60 semester hours of work counted for graduation requirements and completed at the University of Illinois at Urbana-Champaign, except in those curricula for which a higher scholastic graduation requirement is specified.

Each college office, on request, will inform students regarding the scholarship regulations of that college.

### **RESIDENCE REQUIREMENTS FOR GRADUATION**

#### **FIRST BACHELOR'S DEGREE**

In addition to meeting specific course and scholastic requirements, each candidate for a bachelor's degree from the University of Illinois at Urbana-Champaign must spend either the first three years earning not fewer than 90 semester hours or the last year (two semesters, or the equivalent) earning not fewer than 30 semester hours in residence at the Urbana-Champaign campus, uninterrupted by any work in another institution. Only those courses that are applicable toward the degree sought may be counted in satisfying the above minimum requirements. (Either three twelve-week terms or four eight-week sessions are the equivalent of two semesters.)

Concurrent attendance at the University of Illinois at Urbana-Champaign and another collegiate institution does not interrupt the residence requirement for graduation.

Credit earned through the Advanced Placement Program is included in the first 90 semester hours and is not considered as interrupting residence.

Credit allowed toward graduation for completion of courses of study offered by the religious foundations located in Urbana-Champaign is not counted as interrupting residence or counted toward satisfying minimum residence requirements for graduation.

Attendance at another institution under the Committee on Institutional Cooperation Program or participation in the University of Illinois foreign study programs or the Study Away from Campus Programs for which students are registered in Urbana-Champaign courses does not interrupt residence, and credits earned through these programs are counted as residence credit toward graduation, provided that within the last two years of study at least 30 semester hours have been earned in courses taken on the Urbana-Champaign campus.

Transfer students from community colleges must, after attaining junior standing, earn at the University of Illinois at Urbana-Champaign or any other approved four-year institution at least 60 semester

hours acceptable toward their degrees, in addition to meeting the usual residence requirement for degrees from the University of Illinois at Urbana-Champaign.

Students transferring from the University of Illinois at Chicago to the Urbana-Champaign campus as candidates for degrees must satisfy the residence and academic requirements for graduation established for the curriculum entered on the Urbana-Champaign campus. Since the campuses do not have identical academic programs, a student who is contemplating a transfer should consult with the college into which he or she expects to transfer.

A student attending as "visitor only" is not considered a "student in residence."

A student who requests that the residence requirement for graduation be waived must submit a petition to the dean of his or her college, who will take action on the petition.

A student on drop status may not graduate until he or she has been reinstated by the dean of the student's college. A student who meets the conditions stated in the first paragraph of this section must notify the dean of his or her college of the student's intent to apply credit earned elsewhere toward the degree requirements and arrange to have a final official transcript from the other collegiate institution(s) attended sent to the Office of Admissions and Records.

#### **SECOND BACHELOR'S DEGREE**

A student who has received one bachelor's degree may, with college approval, be permitted to receive a second bachelor's degree from the University of Illinois at Urbana-Champaign, provided that all specified requirements for both degrees are fully met and that the curriculum offered for the second degree includes at least the final 30 semester hours that are earned in residence at the Urbana-Champaign campus and not counted for the other degree.

The second bachelor's degree may be earned either concurrently with or subsequent to the first degree.

A candidate for a second bachelor's degree must meet the same residence requirements as for the first degree.

Only those courses that are acceptable toward the degree sought may be counted in satisfying the above minimum requirements. This includes the 30 additional hours required for the second degree.

### **GENERAL EDUCATION REQUIREMENTS**

Undergraduate education at the University of Illinois at Urbana-Champaign includes general education as an essential complement to major fields of study. General education uses the theories, concepts, and methods of the disciplines to broaden students' understanding and appreciation of human thought and achievement—and to provide a richer context within which to understand their own specialized fields. The campus general education component is intended to help students understand and appreciate diverse areas of scholarship, to develop and enhance a wide range of intellectual abilities, and to strengthen students' abilities to develop and communicate ideas effectively and responsibly.

The Campus Senate, the faculty General Education Board, and the colleges and departments have begun to implement enhanced general education requirements. Some further changes in requirements are expected to take effect in fall 1995. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

A minimum of 6 hours each in the humanities, the social sciences, and the natural sciences is required for graduation in all undergraduate curricula. Approved courses should be distributed over at least three years. Upon request, the individual colleges will provide students with the general education requirements for their curricula and the list of courses acceptable for this purpose.

#### **COMPOSITION I AND II REQUIREMENT**

Satisfactory proficiency in the use of English is a requirement for all undergraduate degrees awarded at the Urbana-Champaign campus of the University. This proficiency will be certified by the fulfillment of a two-part requirement identified as Composition I and II. The second (Composition II) requirement became effective for new freshmen entering in fall 1991 and was effective for new transfer students entering in fall 1992. The Composition I requirement can be met by the satisfactory completion of one of the following courses or course sequences: Rhetoric 101 and 102; Rhetoric 103 and 104; Rhetoric 105 or 108; or Speech Communication 111 and 112 (Verbal Communication). A student with a sufficiently high score on either the ACT English

Subtest or the SAT Verbal Test and high performance on a written essay examination may satisfy the Composition I requirement for graduation. Students may also proficiency the requirement by scoring 4 or 5 on the Advanced Placement (AP) Test in language and composition, or on the AP Test in literature.

If the academic credentials of a transfer student do not indicate fulfillment of course work equivalent to the University of Illinois's Composition I requirement, the student may be administered the Rhetoric Placement and Proficiency Examination, the ESL Placement Test, or the Transfer Writing Examination.

Under certain conditions, students may satisfy the Composition I requirement for graduation through satisfactory completion of courses offered by the Division of English as an International Language. Satisfactory completion of courses (ESL 114 and ESL 115) satisfies the Composition I requirement. Evidence that a student is eligible to enroll in these courses is established by a satisfactory score on the ESL Placement Test, a test of oral and written English administered by the Division of English as an International Language. On the basis of this test, the student will be enrolled in the course or courses appropriate to his or her English needs.

If a student's score on the ESL Placement Test is high enough so that he or she does not have to take ESL 113, the student is free to take either ESL 114 and ESL 115 or Rhetoric 105. If the student chooses to do the latter, he or she must take the Rhetoric Placement and Proficiency Examination offered by the Department of English.

The Composition I requirement may be met by satisfactory completion of any course that has been approved and designated as satisfying the demands of the Composition II requirement. The Composition II requirement cannot be met by passing a proficiency examination.

A list of courses that fulfill the Composition II requirement is available from departmental and college advising staff.

### QUANTITATIVE REASONING

The quantitative reasoning requirement became effective for new freshmen entering in fall 1994 and was effective for new transfer students entering in fall. This requirement applies to courses in the fields of mathematics, computer science, probability and statistics, and formal logic. The various colleges and programs of study differ on the specific courses which fulfill this requirement; courses which fulfill the campus quantitative reasoning requirement may not meet a specific college's requirements (or vice versa). Students should contact their college or departmental adviser for more information about fulfilling the quantitative reasoning requirement.

### FOREIGN LANGUAGE COURSES

Except as prohibited or limited by the established policy of the student's college, credit in University foreign language courses taken to remove high school entrance deficiencies may, at the discretion of the college, be counted in the total hours required for graduation or be accepted in partial or complete satisfaction of the foreign language requirement for the degree.

Normally no more than 10 hours of proficiency credit for the study of a single foreign language at the elementary and intermediate level shall be counted for graduation in the College of Liberal Arts and Sciences. Additional credit may be granted for advanced courses emphasizing literature and language structure rather than communicative competence in the language.

### RELIGIOUS FOUNDATION COURSES

Courses of study offered by the religious foundations located in Urbana-Champaign that have been approved by the College of Liberal Arts and Sciences Committee on Courses and Curricula are accepted for credit by the University provided that the student is currently registered in University courses. Registration in these courses is limited to students of sophomore standing or above who are currently registered on campus in University courses and must be approved in advance by the dean of the student's college. Grades in these courses are not included in the student's all-University scholastic average, and the courses are not counted as interrupting residence or toward satisfying minimum residence requirements for graduation.

A maximum of 10 semester hours of credit in religious foundation courses may, with the approval of the dean of the college concerned, be counted toward graduation. The College of Liberal Arts and

Sciences has different restrictions which are given in detail in the *LAS Student Handbook*.

The above credit limitations and other restrictions apply to religious foundation courses only and *not* to courses offered by the University of Illinois Program in Religious Studies.

### CORRESPONDENCE AND EXTRAMURAL COURSES

After matriculation, a student may count toward his or her degree, with the approval of the dean of the student's college, as many as 60 semester hours of credit earned in extramural and/or correspondence study, provided that:

- The student completes all of the remaining requirements for the degree in residence at the University of Illinois at Urbana-Champaign, or
- The student presents acceptable residence credit for work done elsewhere and completes requirements needed for his or her degree in residence at the University. In all cases, the senior year (two semesters of not less than 30 semester hours) must be done in residence at the University of Illinois at Urbana-Champaign.

A student who has completed the first three years in residence at the University of Illinois at Urbana-Champaign, earning a minimum of 90 semester hours, may do all or part of the senior year in correspondence or extramural study, subject to meeting all of the requirements for the degree.

Credit for correspondence work taken with fully accredited institutions may be allowed, but only on approval of the dean of the student's college.

### THESES

If a thesis is to be submitted in partial fulfillment of the requirements for a bachelor's degree, the subject must be announced by the end of the sixth week of instruction in the first semester of the student's senior year. The work must be done under the direction of a professor in the department concerned and must be applicable to the curriculum in which a degree is expected. A maximum of 10 hours of credit in thesis work may be counted toward a bachelor's degree.

### UNDERGRADUATE CREDIT FOR SERVICE AND EDUCATION IN THE ARMED FORCES

The University grants registered students college credit for certain training and experience in the armed forces of the United States. A student who completes military service in the U.S. Air Force, Army, Marine Corps, Navy, or Coast Guard, including basic or recruit training of six months or more, is awarded 4 semester hours of credit in basic military science upon presentation of evidence on Form DD-214 of honorable discharge or transfer to the reserve component.

Correspondence courses for which the student has passed the end-of-course examination prepared by the U. S. Armed Forces Institute, that are baccalaureate-oriented, and that correspond in level and content to courses offered at the University of Illinois at Urbana-Champaign are recognized for credit.

Credit recommendations in the *Guide to the Evaluation of Education Experiences in the Armed Forces* (published by the American Council on Education) for military service school training will be considered for transfer credit as follows: (1) credit will be granted for college-level, baccalaureate-oriented training and education, (2) vocational credit related to the student's curriculum choice will be referred for consideration to the dean of the college in which the student is enrolled, and (3) duplicate credit will be deleted. Applicability of military credit toward a particular degree is determined by the dean of the college. Additional information may be obtained from the Office of Admissions and Records.

### GRADUATION WITH HONORS

Recognition for superior academic achievement is given by the University and by the colleges and departments.

### UNIVERSITY HONORS

Continuous academic achievement is recognized by inscribing the student's name on a Bronze Tablet that hangs on a wall of the Main Library. To qualify, an undergraduate student must:



- Have at least a 4.5 (A = 5.0) cumulative grade-point average for all work taken at the University through the academic term prior to graduation, and
- Rank, on the basis of his or her cumulative grade-point average (including University of Illinois at Urbana-Champaign and transfer work, if any) through the academic term prior to graduation, in the top 3 percent of the students in his or her college graduating class.

Transfer students, in addition to meeting the general rules for qualification, must satisfy two additional requirements: they must have cumulative University of Illinois at Urbana-Champaign grade-point averages as high as the lowest ones listed for students in their colleges who qualify on the basis of having completed all of their work at the University of Illinois at Urbana-Champaign; and they must earn 40 or more semester hours at the University of Illinois at Urbana-Champaign through the academic term prior to graduation.

For the purpose of this award, *college graduating class* means all students receiving bachelor's degrees from the same University of Illinois at Urbana-Champaign college between July 1 of each year and June 30 of the next.

For the purpose of this award, *academic term prior to graduation* means: for August graduates, the preceding spring semester; for October graduates, the preceding spring semester; for January graduates, the preceding summer session; for May graduates, the preceding fall semester. The list will be determined each year after grades for the fall semester are available. To be considered in the calculation of University Honors, all grade corrections must be recorded by the end of the eighth week of the spring semester.

## COLLEGE HONORS

Each college prescribes the conditions under which degree candidates may be recommended for graduation with honors. These distinctions are noted on students' diplomas, permanent University records, and official transcripts of credits. Detailed information concerning the requirements for graduation with honors is included in the sections of this catalog applying to the individual colleges and departments.

### PHI KAPPA PHI

The national honor society of Phi Kappa Phi recognizes and encourages superior scholarship in all academic disciplines. To be eligible, a junior (72 to 89 letter-graded hours) must have a minimum cumulative grade-point average of 4.75 and a scholastic rank in the upper 5 percent of the junior class; seniors (90 or more letter-graded hours) must have a minimum cumulative grade-point average of 4.5 and a scholastic rank in the upper 10 percent of the senior class.

Invitations to membership are mailed to all eligible juniors and seniors, and an initiation program is held near the end of each semester.

### THE DEAN'S LIST

The names of undergraduates who have achieved grade-point averages for a given semester in the top 20 percent of their college class will be included on a list prepared for the dean of the college. (In the College of Fine and Applied Arts, the names of eligible undergraduates who have achieved grade-point averages for a given semester in the top 20 percent of all students in their curriculum will be listed.) This list is publicized within the University and is sent to news agencies throughout the state. Names of James Scholars are preceded by an ampersand (&).

To be eligible for Dean's List recognition, students must complete successfully 14 academic semester hours, of which at least 12 must be taken for letter grade (A, B, C, D, E, AB). Only grades in hand at the time the list is compiled will be considered in determining eligibility unless it can be established that the final grade average will be above the minimum required regardless of the grade eventually received; students with EX, DF, or missing grades will be added as soon as letter grades are received and eligibility can be determined. Credits earned during the semester through proficiency, CLEP, and advanced placement examinations may not be counted toward the 14-semester-hour requirement.

Individual colleges may modify the above criteria, and interested students should contact their college offices for further information.

The College of Liberal Arts and Sciences has different eligibility requirements, which are given in detail in the *IAS Student Handbook*.

## RESERVE OFFICERS' TRAINING CORPS

**NOTE:** Students considering enrollment in military science, naval science, or air force aerospace studies courses should be aware that University policy prohibits discrimination on the basis of sexual orientation; students may enroll in these courses regardless of sexual orientation. As of the date of the publication of this catalog, students seeking to enroll in ROTC are not asked to disclose their sexual orientation. However, homosexual conduct is grounds for disenrollment from the program.

### ARMY ROTC

Military training has been given at the Urbana-Champaign campus since the University opened in 1868. Originally mandatory for all male undergraduates under the land-grant charter, the program became entirely voluntary in 1964. The Army Reserve Officers' Training Corps is open to all University students, regardless of their academic majors or levels.

### PROGRAM DESCRIPTION

The Army Reserve Officers' Training Corps is an elective program that provides career opportunities, leadership experience, adventure training, and financial support to participating students. The program is a consecutive series of elective courses and other training, including leadership laboratories and field trips designed to prepare young men and women for leadership positions as officers in the U. S. Army, Army Reserve, and Army National Guard. The leadership principles and management techniques presented, however, are equally applicable to success in any field. Financial support is provided both by state, federal, and named scholarships and by a subsistence allowance of \$100 a month.

### LEADERSHIP TRAINING

Students' leadership is continuously developed through a Leadership Assessment Program (LAP). The LAP evaluates students' leadership potential in a variety of leadership roles and provides immediate feedback to students. Emphasis is on hands-on leadership experience. Cadets plan, organize, and evaluate much of the laboratory and field training.

### ADVENTURE TRAINING

Training in mountaineering techniques (rappelling), land navigation, survival, rifle marksmanship, and waterborne operations is given to every student. Some students are selected to attend the Army airborne school, helicopter operations school, and leadership training with active and reserve units.

### FINANCIAL ASSISTANCE SCHOLARSHIPS

Enrollment in Army ROTC can provide significant financial support to interested students, regardless of family financial need. Army ROTC offers three financial aid programs that provide support to Army ROTC cadets: the Army ROTC Federal Scholarship program, the Illinois State ROTC Scholarship program, and the Simultaneous Membership Program of the Army ROTC and the National Guard or Army Reserve. The federal scholarships are competitive scholarships available for college-bound high school juniors and seniors, and college freshmen and sophomores. These scholarships provide funds for tuition, University fees, books, and \$100 a month for four, three, or two years, depending on the time of application. Illinois State ROTC Scholarships are competitive scholarships that provide full tuition waivers for ROTC students who are residents of the state. The Simultaneous Membership Program allows students to join the Army Reserve or Army National Guard and also to join Army ROTC. The program provides the student with increased reserve forces pay, benefits of the new GI Bill, and \$100 a month from Army ROTC. Engineering students who are enrolled in Army ROTC are eligible for other additional financial aid through named scholarships. These students should contact the ROTC office for further details. All Army ROTC cadets, as a minimum, receive \$100 a month for their last two years in the program if they meet the requirements for continuing.

### CAREER OPPORTUNITIES

The training and instruction are designed to prepare students to serve as officers in the U.S. Army. This may be full time, on active duty, or part time with the Army Reserve or National Guard. Service with the reserve forces allows pursuit of a civilian career while simultaneously serving the country as an officer. Approximately half of Army ROTC graduates pursue civilian careers and have discovered that their ROTC leadership training is an invaluable tool for success. For engi-

neering students, a co-op program is available to allow students to work with government laboratories and projects while participating in the Army ROTC program.

#### PROGRAM OPTIONS

1. Four years—the student attends one military science course each semester.
2. Three and one-half years—the student takes two military science courses during the first semester, then one course each semester thereafter.
3. Three years—the student takes two military science courses per semester during the first year, then one course each semester thereafter.
4. Two years—those students with prior military experience (junior ROTC, prior military service) may receive credit for the first two years of Army ROTC and begin with the second two years. Also, students who are interested in the program, but who were not involved in ROTC during their first two years of college, may join during these last two years by attending a six-week camp during the summer, for which each student receives more than \$600 in pay.

#### ACADEMIC PROGRAM

The first- and second-year educational program in military science consists of the courses MIL S 111, 113, 121, and 123. These 1-hour courses are designed to give students a basic understanding of the national defense establishment, the role of the U.S. Army officer, military tactics, and military-related skills.

The third and fourth years of military science, consisting of MIL S 231, 233, 241, and 243, are designed to develop the skills and attitudes vital to assuming leadership positions.

A leadership laboratory is required with each academic course. The leadership laboratory is one hour per week for the first two years and two hours per week the last two years. Practical experience is provided in military and leadership skills in a framework that provides maximum opportunity to develop each student's self-confidence, decisiveness, and leadership potential.

To develop the student's academic diversity, each student must complete a course in math reasoning, computer literacy, human behavioral science, oral/written communications, and military history, prior to being commissioned. These courses may be used to fulfill other academic degree requirements.

#### First year

HOURS	FIRST SEMESTER
1	MIL S 111—Introduction to Military Science
HOURS	SECOND SEMESTER
1	MIL S 113—Basic Military Marksmanship

#### Second year

HOURS	FIRST SEMESTER
1	MIL S 121—Land Navigation
HOURS	SECOND SEMESTER
1	MIL S 123—Military Tactics

#### Third year

HOURS	FIRST SEMESTER
2	MIL S 233—Military Leadership
HOURS	SECOND SEMESTER
3	MIL S 231—Military Operations

#### Fourth year

HOURS	FIRST SEMESTER
2	MIL S 241—Military Law
HOURS	SECOND SEMESTER
2	MIL S 243—Military Ethics and Professionalism

Enrollment in the third- and fourth-year courses and laboratories requires instructor approval. Non-U.S. citizens may require the consent of their governments to be ROTC students.

Enrollment in laboratories requires instructor approval, and students must meet service entrance requirements.

#### ADDITIONAL INFORMATION

For additional information regarding any of these programs, contact the professor of military science at the University of Illinois at Urbana-

Champaign, 113 Armory Building, 505 East Armory Street, Champaign, IL 61820, (217) 333-1550.

#### NAVAL ROTC

The Naval ROTC program is a professional educational opportunity in which a student can earn a commission in the U.S. Navy or Marine Corps while pursuing a baccalaureate degree. This professional foundation is then developed and broadened during active service as a commissioned officer after graduation and commissioning. A student may be enrolled in either the Scholarship Program or the College Program (nonscholarship). There are four-year programs for entering freshmen and two-year programs for students who have already completed part of their college education.

For scholarship students, no military obligation is incurred until the beginning of the sophomore year. College program students incur the military obligation at the commencement of the junior year. Naval science courses are open to all students, upon consent of the Department of Naval Science, even if they are not enrolled in either of these programs.

#### FOUR-YEAR NAVY-MARINE SCHOLARSHIP PROGRAM

The Navy-Marine Scholarship Program provides the student with full tuition, fees, books, and a tax-free subsistence pay (currently \$150 per month) for as long as four years. A student in good standing and enrolled in a degree program that requires longer than four years to complete may apply for fifth-year scholarship benefits with agreement to serve additional active service after commissioning, or the student may take a leave of absence of as long as a year to finish the baccalaureate degree. Upon graduation, scholarship students are commissioned in the U.S. Navy or U.S. Marine Corps and serve four years on active duty. Newly commissioned officers who qualify have the opportunity to continue their education toward advanced degrees.

Scholarship selection in national competition is based on the applicant's Scholastic Aptitude Test (SAT) or American College Testing (ACT) Program score, high school and college records, aptitude for naval service as judged by interviews, and by prescribed physical qualifications.

Scholarship students have an opportunity during the summer to practice what they have learned in the classroom. Three summer training periods of approximately four to six weeks each are taken by students either at sea aboard a U.S. Navy vessel; at a squadron or amphibious base, or at a naval air station; or on board a nuclear submarine. Students who choose to enter the U.S. Marine Corps spend their last summer training period at the Marine Corps Officer Candidate School in Quantico, Virginia.

#### FOUR-YEAR NAVY-MARINE COLLEGE PROGRAM

A Navy-Marine College Program student receives all required uniforms and naval science textbooks while enrolled, and a subsistence allowance (currently \$150 per month) during the junior and senior years. If the degree program requires longer than four years to complete, the student may apply for a fifth-year benefit of subsistence pay with agreement of additional active service after commissioning or may take a leave of absence as long as a year to finish the baccalaureate degree. Upon graduation, the college program student is commissioned in the U.S. Naval or U.S. Marine Corps Reserve and serves three of the eight years of reserve obligation on active duty.

A student may apply for admission to the college program through the professor of naval science, who makes the final selection. This selection is based on academic, physical, and military aptitude criteria. College program students also attend one summer at-sea training session, usually after the junior year.

College program students are eligible to be selected for the scholarship program through recommendation of the professor of naval science; the decision is made by the chief of naval education and training (CNET). These students are also eligible to receive Illinois State ROTC scholarships (if residents of this state). These scholarships are awarded annually on a competitive basis and cover tuition only.

#### TWO-YEAR COLLEGE PROGRAM

This program provides a student with all required uniforms, naval science textbooks, and subsistence pay (currently \$150 per month). Applicants should have two remaining years of study at the Urbana-Champaign campus. During the summer before the junior year, students attend a six-week course of military instruction at the Naval

Science Institute at Newport, Rhode Island. Transportation costs and salaries are paid to the students. After successful completion of the course, they join their contemporaries in the college program and also may be eligible for appointment to scholarship status, depending on their backgrounds and academic performances. College program students participate in a four-to-six-week summer at-sea training period between their junior and senior years, as do their scholarship counterparts. Applications must be complete and reach CNET by 15 March of the sophomore year. Interviewing begins in January of the sophomore year.

### TWO-YEAR SCHOLARSHIP PROGRAM

Acceptance into the Naval ROTC Two-Year Scholarship Program training option guarantees a student a two-year Naval ROTC scholarship. Summer training and other benefits, as well as Naval ROTC training during the junior and senior years, are the same as those for the two-year college program. Prerequisites for this option include at least one year of calculus, with a C average or better. A minimum grade-point average of 3.5 is required, with a preferred major of mathematics, chemistry, physics, or engineering. Applications must be complete and reach CNET by 15 March of the sophomore year. Interviewing begins in January of the sophomore year.

### NURSE OPTION

The Nurse Option Scholarship Program provides the student the same benefits as four-year scholarship students. Upon graduation, students are commissioned in the U.S. Navy Nurse Corps. Nurse option students have two specialized four-week summer training periods at a major naval hospital and at sea. Only the freshman and senior naval science and English composition class requirements are mandatory. Graduates must pass their licensing exam within one year.

### STATE NAVY ROTC SCHOLARSHIP

For information regarding the state Navy ROTC scholarships, see page 28.

### REQUIREMENTS

In addition to mental, physical, and aptitude requirements, men and women in the Naval ROTC program must:

- Be citizens of the United States.
- Be between 17 and 21 years of age by September 1 of the year in which enrollment begins (those contemplating a bachelor's degree that requires five years to complete must be younger than age 20 on June 30 of that year). If younger than age 18, they must have the consent of their parents. Scholarship students must be younger than age 25 on June 30 of the calendar year in which they are commissioned. College program students must meet identical requirements except that they must be younger than age 27 on June 30 of the calendar year in which commissioned.
- Have no moral obligations or personal convictions that will prevent them from executing the oath of office.

Each week, Naval ROTC students have a two-hour naval science laboratory course, N S 100, for which there is no credit, and also take the following naval science and University academic courses.

#### First year

HOURS	FIRST SEMESTER
2	N S 101—Introduction to Naval Science
HOURS	SECOND SEMESTER
2	N S 102—Sea Power and Maritime Affairs

#### Second year

HOURS	FIRST SEMESTER
3	N S 121—Naval Weapons Systems
HOURS	SECOND SEMESTER
3	N S 122—Introduction to Naval Engineering

#### Third year (Navy)

HOURS	FIRST SEMESTER
3	N S 231—Naval Operations and Navigation, I
HOURS	SECOND SEMESTER
3	N S 232—Naval Operations and Navigation, II

#### Third year (Marine)

HOURS	FIRST SEMESTER
3	HIST 281—War, Military Institutions, and Society to 1815
HOURS	SECOND SEMESTER
3	HIST 282—War, Military Institutions, and Society Since 1815
3	N S 291—Evolution of Warfare

#### Fourth year (Navy)

HOURS	FIRST SEMESTER
3	B ADM 210—Management and Organizational Behavior
HOURS	SECOND SEMESTER
2	N S 242—Naval Leadership and Management, II

#### Fourth year (Marine)

HOURS	REQUIRED COURSES
3	N S 293—History of Amphibious Warfare

Each scholarship student's degree program must also include the following University courses (not required for Marine Corps option students):

SEMESTERS	COURSES
2	Calculus
2	Physics (calculus-based)
2	English
1	U.S. Military Affairs/National Security Policy
1	Computer Science

Marine option students are to complete one semester of political science as directed by the marine officer instructor.

College program (nonscholarship) students, who are not governed by federal scholarship requirements, must complete two semesters of college mathematics and the physical sciences as a prerequisite to commissioning.

### ADDITIONAL INFORMATION

Further information regarding Naval ROTC may be obtained in person from or by writing to the professor of naval science, University of Illinois at Urbana-Champaign, 236 Armory, 505 East Armory Street, Champaign, IL 61820, (217) 333-1061

### AIR FORCE ROTC

The Air Force Reserve Officers' Training Corps at the University of Illinois at Urbana-Champaign is an elective program that provides professional military training for participating students. The program is a consecutive series of elective courses, leadership laboratories, and field training experiences designed to prepare young men and women for leadership positions as commissioned officers in the U.S. Air Force. The curriculum, however, is applicable to success in any field.

For qualified applicants, Air Force ROTC offers two-, three-, and four-year programs leading to a commission as an Air Force officer. Three- and four-year program students complete the general military course, field training, and the professional officer course. Two-year program students complete an extended field training encampment and the professional officer course. Financial support is provided both by a state and federal scholarships and by a subsistence allowance of \$150 a month.

Aerospace studies courses are open to all registered students, upon consent of the Department of Aerospace Studies, even if they are not enrolled in any of these programs and do not wish to pursue a commission.

### GENERAL MILITARY COURSE

The educational program for the first two years in Air Force Aerospace Studies consists of AFAS 111, 112, 121, and 122. These 1-hour courses are designed to give students basic information on air power history and the role of the U.S. Air Force in the defense of the free world. All required aerospace studies textbooks and necessary uniforms are provided free. The general military course is open to all registered students at the University of Illinois without advance application and does not obligate students to the Air Force in any way.

### FIELD TRAINING

Air Force ROTC field training is offered during the summer months at selected Air Force bases throughout the United States. Students in the four-year program participate in four weeks of field training, usually between their sophomore and junior years. Students applying



for entry into the two-year program must successfully complete six weeks of field training prior to enrollment in the professional officer course. The Air Force pays all expenses associated with field training.

The major areas of study in the four-week field training program include junior officer training, aircraft and air crew orientation, career orientation, survival training, base functions, Air Force environment, and physical training. The major areas of study included in the six-week field training program are essentially the same as those conducted at four-week field training plus the general military course and leadership laboratories.

#### PROFESSIONAL OFFICER COURSE

The third and fourth years of Air Force aerospace studies instruction, consisting of AFAS 231, 232, 241, and 242, are designed to develop skills and attitudes vital to the professional officer. Students completing the professional officer course are commissioned as officers in the U. S. Air Force upon college graduation. All students in the course receive a nontaxable subsistence allowance of \$150 per month during the two-semester academic year. Students wanting to enter the program should apply early in the spring semester of their sophomore year in order to begin this course the following fall semester. Final selection of students rests with the professor of aerospace studies. Each member of the course must:

- Be a citizen of the United States.
- Be a full-time student at the University.
- Have at least two years remaining at the University as an undergraduate and/or graduate student upon entry to the program.
- Pass an Air Force physical examination.
- Be able to complete all requirements for commissioning before reaching age 26½ for a flying candidate or age 30 for a nonflying candidate.
- Complete summer field training (four-week or six-week).
- Achieve a qualifying score on the Air Force Officer Qualifying Test.
- Complete Rhetoric 105 or its equivalent and a college-level mathematics course before graduation.
- Execute a written agreement with the U.S. government to complete the course, accept a reserve commission in the U.S. Air Force upon graduation, and serve four years on active duty after graduation. Pilot candidates agree to serve eight years, and navigators six years, on active duty after completion of flying training.
- Enlist in the Air Force Obligated Reserve Section; this enlistment is terminated upon acceptance of a commission.
- Possess and maintain a quality grade-point average meeting the requirements of the student's college.
- Not be a conscientious objector, nor possess other disqualifying characteristics to a commission as established by law or the Department of Defense. Talk with the AFROTC recruiter to see if you qualify.

#### LEADERSHIP LABORATORY

The Air Force requires all qualified officer candidates pursuing a commission to participate in a leadership laboratory. The leadership laboratory is not a University course and no University credit is awarded for participation.

Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. The leadership laboratory involves the study of Air Force customs and courtesies, drill and ceremonies, career opportunities, and the life and work of an Air Force junior officer. Students develop leadership in a practical, supervised laboratory, which typically includes field trips to Air Force installations throughout the United States. This laboratory is restricted to individuals enrolled in the precommissioning programs only.

#### AIR FORCE ROTC COLLEGE SCHOLARSHIP PROGRAM

This program provides scholarships to selected students through participation in the Air Force ROTC. During their participation in the program at the University of Illinois at Urbana-Champaign, students receive \$150 per month along with paid tuition, fees, laboratory expenses, and required textbooks.

In order to be eligible for this scholarship, a student must:

- Be a citizen of the United States.
- Be at least 17 years old on the date of enrollment and younger than age 25 on June 30 of the estimated year of commissioning.

- Pass a physical examination administered by a physician of the U.S. Air Force.
- Be selected by a board of Air Force officers.
- Have no moral objections or personal convictions that will prevent bearing arms and supporting and defending the Constitution of the United States against all enemies, foreign and domestic. An applicant must not be a conscientious objector.
- Achieve a qualifying score on the Air Force Officer Qualifying Test.
- Successfully complete four-week or six-week AFROTC Summer Field Training.
- Maintain a quality grade-point average.
- Enlist in the Air Force Reserve. This enlistment is terminated by acceptance of a commission as a second lieutenant in the U.S. Air Force.
- Execute a written contract with the U.S. government agreeing to complete the Air Force ROTC program, to attend summer field training at the specified time, to accept a reserve commission in the Air Force upon graduation, and to serve four years on active duty after graduation.

High school students should apply for this scholarship late in their junior year or early in their senior year. High school students may get applications from their guidance counselors or from Air Force ROTC, Detachment 190, University of Illinois at Urbana-Champaign, 223 Armory Building, 505 East Armory Avenue, Champaign, IL 61820, (217) 333-1927. Completed applications must be received no later than December 1 of the year before the student intends to enter college.

For students already enrolled in the University of Illinois at Urbana-Champaign, 3½-, 3-, 2½-, and 2-year scholarships are available. Applications can be submitted through the Air Force ROTC administration office, 223 Armory Building.

#### STATE AIR FORCE ROTC SCHOLARSHIPS

For information regarding Illinois Air Force ROTC Scholarships, see page 28.

#### ADDITIONAL INFORMATION

Further inquiry concerning the Air Force ROTC program at the University should be directed to Air Force ROTC, Detachment 190, University of Illinois at Urbana-Champaign, 223 Armory Building, 505 East Armory Avenue, Champaign, IL 61820, (217) 333-1927.

### COUNCIL ON TEACHER EDUCATION

1310 South Sixth Street  
Champaign, IL 61820

Executive Director: 333-2804

Associate Director/Certification Officer: 333-7195

Certification Services: 333-7195

Clinical Experience Services: 333-2804

Educational Placement Office: 333-0740

Six colleges of the University of Illinois at Urbana-Champaign offer degree programs in teacher education: the Colleges of Agriculture, Applied Life Studies, Education, Fine and Applied Arts, Liberal Arts and Sciences, and the Graduate College. The Council on Teacher Education is responsible for the coordination of teacher education curricula at the Urbana-Champaign campus and serves as the liaison between the campus and state certification authorities. The list of teacher education curricula is on page 43.

Students may consult their teacher education advisers or the certification officer for additional information about academic regulations and other policies affecting teacher education. Consult the executive director of the council for information about the *Grievance Policy and Procedures for Students Enrolled in Certification Programs under the Purview of the Council on Teacher Education*.

#### Requirements

#### ADMISSIONS

Applicants to teacher education curricula must meet the admission requirements of the colleges and departments offering the chosen curricula. A student whose cumulative grade-point average is less

than the stated minimum may apply for admission and will be considered individually on a petition basis if enrollment vacancies exist in the college and curriculum to which the student seeks admission. If admitted, the student may be placed on provisional status by the Council on Teacher Education.

To be in compliance with recent state legislation, all students entering teacher education programs must demonstrate basic proficiency in reading, mathematics, and language arts. The Council on Teacher Education monitors compliance with this mandate.

Applicants are advised that certain felony convictions, enumerated in Articles 10-21.9 and 21-23a of the *School Code of Illinois*, prohibit certification or employment in public schools. Questions pertaining to this matter should be addressed to the certification officer.

#### CONTINUATION IN TEACHER EDUCATION

To be eligible for continuation in teacher education, candidates must have UIUC and cumulative grade-point averages of 3.5 (A = 5.0) or higher. In addition, candidates must meet grade-point requirements specific to their programs. The Council on Teacher Education reviews each student's academic progress every semester. Students who do not meet the grade-point average criteria will receive warning letters from the council advising them that their entry into student teaching and their receiving recommendations for certification from the University are at risk. Students will be directed to their college deans for more information.

In addition, students are screened just before student teaching and just after its completion by faculty committees that assess the overall record of their performance in the program. Teaching effectiveness is influenced not only by academic proficiency, but also by the personal characteristics of the teacher. Therefore, faculty members take these characteristics into account as they evaluate students' progress in the program. In addition, teaching effectiveness can be influenced by the teacher's health. For this reason, UIUC provides counseling and medical services for all students. A student wishing additional information about these services may make an appointment by calling or by visiting the council office.

Because it is essential that counseling and medical services be offered as soon as the need becomes apparent, teacher education advisers and faculty members are asked to recommend for assistance or examination any student about whom they feel concern. A student who is recommended for assistance or examination will receive a written request to make an appointment to discuss the situation. It is a requirement of the Council on Teacher Education that a student who receives such a request must respond. Failure to do so will jeopardize the student's continuation in teacher education. During the appointment, the student will be informed of the counseling and medical services available at the University. The student's use of these services is usually optional. In exceptional cases, however, the council may require a student to satisfactorily complete a mental health or physical examination with one of the campus services. Students who wish to continue in teacher education must comply with such referrals.

#### STUDENT TEACHING

Undergraduate students should apply for tentative student teaching assignments upon completing 55 semester hours of credit. Graduate students should consult with their adviser about the timing of requests for placement. Student teaching application forms may be obtained from the appropriate student teaching office. (Students may obtain referrals to the appropriate office by contacting the council's Clinical Experiences Services section at 333-2804.) A student seeking placement in student teaching should contact the appropriate office of student teaching no later than the October 1 of the academic year preceding the desired placement to determine departmental deadlines and meeting dates. Although departments may set earlier deadlines, the latest date for application will be the last day of classes for the fall semester. Students who apply after their departments' deadlines cannot be guaranteed a student teaching assignment during the next academic year. A student who will not be on campus during the fall semester, but who expects to enroll in educational practice (student teaching) during the next school year, should secure an application form from his or her office of student teaching before leaving campus.

On completion of 75 or more semester hours, a student who has submitted an application will receive a student teaching assignment pending verification that he or she (1) has completed all professional education course work and 100 hours of early field experience, (2) has UIUC and cumulative grade-point averages of 3.5 (A = 5.0) or higher, (3) has the minimum grade-point average required for his or her

program, and (4) has received a recommendation for placement in student teaching from the appropriate faculty committee.

Only those students officially registered in teacher education curricula are eligible for student teaching placements. Students who are on academic or disciplinary probation will not be permitted to student teach. Graduate students pursuing teacher certification through completion of undergraduate program requirements are required to petition the council for permission to student teach. The council reserves the right to deny student teaching placement to students whose performance in course work or in early field experiences has been judged to be unsatisfactory by professional standards, including scholarship, ethics, and responsibility, as determined by the faculty and staff in consultation with cooperating school personnel. Satisfactory performance is not based solely on grades.

Students in teacher education should anticipate and plan for student teaching assignments off campus. For most students, additional expense will be incurred during the semester in which student teaching is scheduled. Students cannot be guaranteed assignments in local schools. Attempts will be made to honor such requests; however, this is not always possible, because the number of available sites is limited.

Students are expected to complete all field experiences, including student teaching, at UIUC. Under extenuating circumstances, a student who wishes to complete student teaching through another university, yet receive a UIUC degree and recommendation for certification, must secure the prior approval of his or her adviser, college, and the Council on Teacher Education via petition. The petition must be supported by verification from the other university that it will accept the student as a student teacher and will comply with all Council on Teacher Education requirements. Approvals of such arrangements are infrequent, and students should expect to incur additional costs. Consult the executive or associate director of the council for additional information.

Candidates for certification as administrators or school social workers should consult with their advisers regarding procedures for clinical placement.

#### TEACHER CERTIFICATION

A student who completes all of the course work and other requirements in a program approved for purposes of certification by the Illinois State Board of Education is entitled to receive the recommendation of the University for the appropriate certificate, provided the candidate (1) is a U.S. citizen or legally present and authorized to work, is of good character and in good health, and is at least nineteen years of age; (2) is recommended for certification by his or her program coordinator or department chairperson on the basis of criteria approved by the council; (3) has UIUC and cumulative grade-point averages of 3.5 (A = 5.0) or higher; and (4) has the minimum grade-point average required in his or her program.

In some instances a student may be denied a recommendation for certification but be granted a degree by his or her college. A student who believes that the recommendation for certification has been withheld unjustly may seek redress through the grievance policy established by the Council on Teacher Education. A copy of the policy and the allied procedures may be obtained from the executive director of the council.

Students who enroll in advanced foreign language, chemistry, or mathematics courses as a result of performance on a placement examination are often eligible to receive prerequisite credit for teacher certification purposes only. A student who is qualified to receive prerequisite credit and who has declared one of these areas as his or her major or minor should consult his or her teacher education adviser.

#### GENERAL EDUCATION

The Council on Teacher Education has adopted a common general education core for all undergraduate students pursuing certification in secondary (grades six through twelve) and special (grades kindergarten through twelve) programs. Students are required to complete the course work specified in the council plan. Courses within the teaching major or minor may be used to satisfy general education requirements, provided they appear on the council list of approved courses, which is available from advisers, college offices, and the council office. Students should consult with their advisers to determine the appropriate course work to satisfy the requirements.

Students in UIUC undergraduate programs leading to secondary and special certification will be expected to complete the following requirements.

**DISTRIBUTION**

Communication: Composition I; a speech performance course, and credit in WRITE 200 or a course satisfying the campus Composition II requirement are required. The Composition I requirement can be satisfied by completing one of the following: RHET 101-102, RHET 103-104, RHET 105, RHET 108, SPCOM 111-112, E S L 114-115, or by proficiency credit in one of these options. The speech performance requirement can be satisfied by using SPCOM 111-112 for Composition I or by completing one of the courses listed for speech performance. The Composition II requirement can be satisfied by completing one of the courses listed by the campus for Composition II.

Literature: One course

American history: One course

American government: One course

Non-Western culture: One course

One additional course chosen from literature and the arts, historical and philosophical perspectives, or social perspectives

Biological science: One course\*

Physical science: One course\*

One additional course in biological or physical science\*

Mathematics: One course

Psychology: One course

Health and physical development: 2 hours

\*One of the science courses must have a laboratory.

**TEACHER CERTIFICATION TESTS**

All applicants for certification as teachers, school administrators, and school service personnel must pass tests mandated by the Illinois State Board of Education as a condition for certification. An applicant must pass a test in basic skills (reading, writing, grammar, and mathematics) and a separate test in his or her major area. For further information, contact the certification officer.

**TIME LIMIT ON CERTIFICATION**

Because certification requirements are subject to change as a result of new mandates from the Illinois State Teacher Certification Board and the Illinois General Assembly, the University is unable to guarantee a recommendation for certification to anyone who applies for certification later than one year after graduation from an approved program. A student completing an approved program is urged to apply for certification during his or her last term on campus. Applications for certification are available in the council office.

**BACKGROUND INVESTIGATION OF APPLICANTS FOR EMPLOYMENT**

Each applicant for employment in a school district in Illinois is required to authorize the employing school district to initiate a criminal background check. A school district may employ a person only after a background check has been initiated and may not knowingly employ a person who has been convicted of a felony or of attempting to commit certain offenses enumerated in *The School Code of Illinois*. Although the University plays no role in this criminal background check, students planning to teach in Illinois should be aware of this legislated requirement.

**Special Services****EDUCATIONAL PLACEMENT**

The University's Educational Placement Office assists in the placement and career planning of students and alumni who are seeking education-related employment in schools, colleges and universities, state and federal agencies, and other settings. Services offered include the following: (1) the storage and distribution of educational placement files for individuals who have completed at least one course in any department or college at the University of Illinois at Urbana-Champaign; (2) the publication of a *Job Vacancy Bulletin*, which lists notices of more than 18,000 job vacancies that are sent to the office annually; (3) placement counselors, who are available by appointment to provide career information and guidance to individuals and groups; (4) seminars on topics related to the job search in education; (5) a career information center offering information about careers in education; and (6) on-campus interviews with school and college

recruiters from Illinois and other states. Students, faculty members, administrators, alumni, and others who are seeking education-related employment information are welcome to call, write, or visit the Educational Placement Office, University of Illinois at Urbana-Champaign, 140 Education Building, 1310 South Sixth Street, Champaign, IL 61820; (217) 333-0740.

**CURRICULA**

A student seeking certification must complete the requirements of both his or her chosen curriculum and the Council on Teacher Education. Teacher education curricula and the colleges that offer them are listed below. All teacher education curricula have been approved by the Illinois State Board of Education.

Students are advised that certification requirements may be altered at any time by the State Teacher Certification Board or the legislature. In such cases, students may be compelled to satisfy the new requirements to qualify for the University's recommendation for certification. Proposals currently before the Illinois State Board of Education would require additional course work to teach middle grades 6 through 8 after June 30, 1996, and foreign languages in grades 9 through 12 after June 30, 1997.

PAGE	COLLEGE OF AGRICULTURE
54	Agricultural education
67	COLLEGE OF APPLIED LIFE STUDIES Physical education: curriculum and instruction
	COLLEGE OF EDUCATION
80	Business education*
81	Early childhood education
83	Education of persons with moderate and severe disabilities
82	Elementary education
78	English
78	General science
79	Life science
79	Mathematics
79	Physical science
80	Social studies
	COLLEGE OF FINE AND APPLIED ARTS
110	Art education
118	Music education
	COLLEGE OF LIBERAL ARTS AND SCIENCES
154	Biology
155	Chemistry
155	Computer science
156	Earth science
156	English
157	French
157	German
158	Latin
159	Mathematics
160	Physics
158	Russian
160	Social studies
158	Spanish
160	Speech
	GRADUATE COLLEGE
	Graduate-level certification programs are offered in the areas listed below. For additional information, contact the certification officer or departmental office indicated.

**ADMINISTRATION:****General Supervisory:**

Department of Educational Organization and Leadership  
School of Music  
Department of Special Education

**General Administrative:**

Department of Educational Organization and Leadership  
School of Music  
Department of Special Education  
Department of Vocational and Technical Education

**Superintendent:**

Department of Educational Organization and Leadership

**AGRICULTURAL EDUCATION**

Office of Agricultural Communications and Education

**COLLABORATIVE/RESOURCE TEACHER: LD, S/ED, EMH**

Department of Special Education



EARLY CHILDHOOD EDUCATION  
Department of Curriculum and Instruction

EDUCATION OF PERSONS WITH MODERATE AND  
SEVERE DISABILITIES: TMH/PH  
Department of Special Education

ELEMENTARY EDUCATION  
Department of Curriculum and Instruction

GERMAN  
Department of Germanic Languages and Literatures

SCHOOL SOCIAL WORKER  
School of Social Work

SPANISH  
Department of Spanish, Italian, and Portuguese

SPEECH AND LANGUAGE IMPAIRED  
Department of Speech and Hearing Science

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\*At the time of publication, this program was proposed for elimination. Contact the department for additional information.

If the chosen curriculum requires a minor, it must be selected from the list of approved teacher education minors below. Students should be aware that the state recognizes teaching fields that are not listed below and does not recognize some that are. Students seeking to complete more than one minor or an additional teaching field may obtain information about state minimum requirements from the certification officer.

PAGE	TEACHER EDUCATION MINORS
80	Adult and continuing education*
110	Art education
163	Biology
163	Chemistry
164	Cinema studies*
162	Computer science
163	Earth science
72	Economics
161	English
161	English as a second language
161	French
163	General science
161	German
163	History
80	Instructional applications of computers*
162	Italian
76	Journalism
162	Latin
213	Library science**
162	Mathematics
67	Physical education
163	Physical science
163	Physics
162	Portuguese
164	Psychology
161	Rhetoric
162	Russian
164	Social studies
162	Spanish
161	Speech
121	Urban studies*
164	Women's studies*

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\*These minors do not lead to endorsements for additional teaching fields.

\*\*At the time of publication, this minor was proposed for elimination. Contact the certification officer, 110 Education Building, for current information.

## p r o g r a m s

p r o g r a m s

## COLLEGE OF AGRICULTURE

(Including School of Human Resources and Family Studies)  
104 Mumford Hall  
1301 West Gregory Drive  
Urbana, IL 61801  
(217) 333-3380

Situated in one of the world's richest agricultural regions, the College of Agriculture has a long history in scholarship, professional education, and career preparation in agricultural and food sciences and their relationship to natural resources and the environment. As the land-grant agricultural institution for the state of Illinois, the college traces its heritage of public service to the enrollment of the first agriculture student at the Illinois Industrial University in 1868. Undergraduate students in the college can choose from among fourteen curricula and numerous study options in eight college departments, with more than 450 courses available in a broad range of agricultural, human ecology and environmentally related disciplines. Several cooperative programs with other colleges on campus exist and individualized programs of study may be designed to meet the student's particular educational needs, academic interests, and career goals.

Extensive farms, field sites, greenhouses, laboratories, and other research facilities are conveniently located on the Urbana-Champaign campus, affording excellent opportunities for college students to gain "hands-on" experience with on-going studies in agriculture, child development, dietetics, food processing, and many other fields. The college maintains a large collection of books, periodicals, audiovisuals, and other educational resources in its Agriculture and Home Economics Libraries; and microcomputers, data-processing equipment, and access to the campuswide mainframe computer system are available to supplement and enrich classroom studies.

The College of Agriculture is recognized nationally and internationally for its distinguished faculty, innovative programs of study, and pioneering achievements in teaching, basic and applied research, extension education, and international programs. The college will soon complete a major building program designed to enhance its position of national leadership in the agricultural, human, and environmental sciences. State-of-the-art facilities, including some that are under construction and those completed within the past five years, add greatly to the teaching and research capabilities of the college, particularly in the challenging new fields of biotechnology and genetic engineering. A new \$30-million Plant and Animal Biotechnology Laboratory was dedicated in 1991. A \$17.5-million Animal Sciences Laboratory construction and remodeling project was completed in 1993, and extensive remodeling has been completed in the Agricultural Bioprocess Laboratory, the National Soybean Research Laboratory, and other college facilities. Plans are underway to construct a new library, computer center, and alumni center for use by students, faculty, and alumni.

The College of Agriculture offers career preparation and education in several fields of biological, physical, and social sciences. The academic units and curricula offerings are listed in the following section.

### Departments, Offices, and Curricula

#### AGRICULTURE

The Office of Agricultural Communications and Education offers courses in agricultural communications media and methods, information program planning, rural-urban communications, teaching of college-level agriculture, extension education, extension communications management, and other topics. Students in the agricultural communications major prepare for careers in agricultural writing and editing, radio and television broadcasting, advertising and marketing communications, public relations, and photography.

The Department of Agricultural Economics offers a core program plus specialized courses to prepare students for one or more of the following areas: agribusiness management, farm management, agricultural and food policy, agricultural finance and accounting, agricultural marketing and price analysis, commodity brokerage and the futures markets, natural resource economics and community development, international agricultural development and trade, agricultural law and taxation, and rural sociology.

The agricultural education program, administered through the Office of Agricultural Communications and Education, allows students to follow one or more of the three specialty options: science and management, horticulture and natural resources, and agricultural mechanization. Upon successful completion of an option in the agricultural education major, a student is qualified for an Illinois secondary teaching certificate and for employment in the Cooperative Extension Service and in many agribusiness fields.

The Department of Agricultural Engineering offers courses in agricultural engineering and agricultural mechanization. The agricultural engineering courses cover the principles of engineering science and design used to solve a broad spectrum of engineering problems related to agriculture. Areas of specialization include food and process engineering, off-road equipment design, bioenvironmental engineering of plant and animal facilities, and the protection of soil and water resources and of soil and water quality. The agricultural mechanization courses cover agricultural technology and agribusiness management and focus on such technical specialties as machinery, electronics, computers, automatic controls, materials handling, buildings, waste management, grain and food processing, ventilation and heating, and soil conservation.

The Department of Agronomy offers courses in both crops and soils. Instruction includes courses in plant breeding and genetics; biotechnology and genetic engineering; crop evaluation; crop protection; production and evaluation of cereals, corn, soybeans, and forage crops; crop physiology; design of field experiments; weeds and their control; the origin and development of soils; land appraisals; soil conservation; soil chemistry; soil physics; soil fertility and fertilizer use; soil management; and soil microbiology. A special option in crop protection is available to students interested in a broad, comprehensive approach to controlling diseases, weeds, and insects, plus managing cultural practices to maximize yields. An option in agroecology addresses ecologically based management of cropping systems, stewardship of the environment, and substantial food production systems.

The Department of Animal Sciences offers courses in the areas of animal evaluation, behavior, genetics, nutrition, physiology, meat science, and other courses related to the application of scientific principles to animal agriculture. Courses involve studies with beef and dairy cattle, horses, poultry, sheep, swine, and companion animals.

The Department of Food Science offers courses in the application of biology, engineering, chemistry, physics, microbiology, and nutrition to the processing, formulation, packaging, and distribution of food. Two undergraduate curricula, food science and food industry, are offered.

The Department of Forestry curriculum offers options in forest science and wood products. The forest science option prepares students for all phases of the management of forest properties (private or public, large or small) for the production of valuable wood products and for watershed protection, wildlife habitat, recreational enjoyment, and other benefits. The wood products option is concerned with the properties of wood as a raw material and its manufacture into useful products.

Courses in the Department of Horticulture provide instruction in floriculture, landscape horticulture, turf, pomology, vegetable crops, and subjects common to all these divisions, such as crop production, plant propagation, plant genetics, plant materials, plant anatomy and morphology, and the physiology and ecology of horticultural plants, as well as special problems in experimental horticulture. Courses related to cultural and business management are additional offerings.

The courses offered by the Department of Plant Pathology are designed to prepare students for graduate work in plant pathology and to provide supplementary training for students specializing in related fields such as agronomy, food science, forestry, horticulture, and plant protection.

#### SCHOOL OF HUMAN RESOURCES AND FAMILY STUDIES

The School of Human Resources and Family Studies is in the College of Agriculture. At the time it was established in 1974, the school incorporated the former Department of Home Economics, which had been in existence since 1874. Today the school contains three divisions and offers the following programs: consumer sciences (consumer economics, textiles and apparel, marketing of textiles and apparel); foods and nutrition (dietetics, foods and nutrition, foods in business, restaurant management); and human development and family studies.

The unique focus of the school is the study, within an interdisciplinary context, of vital issues affecting the health and well-being of



individuals and families. The mission of the school is to generate and provide knowledge so that people may both shape and achieve the greatest benefits from their environment under conditions of continuing social, economic, physical, biological, and technological change.

The mission is accomplished by (1) identifying critical problems of concern to individuals and families at local, state, national, and international levels; (2) generating knowledge through basic and applied research to help individuals and families live more healthy, productive, and personally satisfying lives; (3) preparing individuals for professional positions and leadership in the public and private sectors; and (4) providing educational programs to families through the Cooperative Extension Service.

## Requirements

### ADMISSION

Besides meeting the general admission requirements of the University, students entering the College of Agriculture as freshmen must have taken, prior to entry, 8 semesters of English, 4 semesters of algebra, 2 semesters of plane geometry, 4 semesters of laboratory science, 4 semesters of social studies, and 4 semesters of a foreign language.

Applicants for freshman admission are evaluated on the basis of their ACT scores and high school percentile ranks. A portion of the applicants are required to submit a Professional Interest Statement as well. Detailed information may be obtained in the *Admissions Information* brochure contained in the admission application packet.

Applicants who have earned 60 semester hours of baccalaureate credit at other institutions may be considered for transfer admission. Such applicants are evaluated on the basis of their transfer grade-point averages. Some variation may occur in the grade-point average required for transfer admission into the various curricula. Applicants are encouraged to consult the *Admissions Information* publication for specific grade-point average requirements.

### GRADUATION

The number of hours required for graduation varies between 120 and 130 for all curricula within the college. Included in the total must be all courses prescribed in the given curriculum and a sufficient number of electives to obtain the total number. The student should consult the *College of Agriculture Student Handbook* for a listing of credit restrictions that apply in evaluating elective credits toward graduation.

A student who has transferred to the University from another educational institution and who is a candidate for a Bachelor of Science degree from the College of Agriculture must complete at least half of the required agriculture or human resources and family studies semester hours in residence. A transfer student from a four-year college must also complete the senior year, not less than 30 semester hours, in residence at the University. A transfer student from a community college must complete at least 60 semester hours at a senior college and at least the last 30 semester hours at the University of Illinois at Urbana-Champaign.

Each candidate for graduation must have a grade-point average of not less than 3.0 ( $A = 5.0$ ), including grades in courses transferred from other institutions, and a grade-point average of not less than 3.0 in all courses taken at the University of Illinois at Urbana-Champaign.

### STATEMENT ON ACADEMIC PROGRESS

In addition to maintaining prescribed academic performance levels, a student in the College of Agriculture is also expected to make progress in courses required in his or her academic major. Each student is required to have at least one College of Agriculture course in the program each semester, except in cases in which the specific curriculum does not make that desirable. Students not complying will be denied additional enrollment.

### GENERAL EDUCATION

The UIUC senate adopted a revised set of general education requirements in 1989. The eight categories included in the approved document included English composition, quantitative reasoning, foreign language, natural sciences, humanities and the arts, social and behavioral sciences, cultural studies, and perspectives on women and gender. Because of budgetary considerations, it has not been possible to implement all categories immediately. As of August 1994, the following categories with implementation guidelines for College of Agriculture students have been adopted:

#### A. English composition

(1) Composition I. This requirement may be fulfilled by the satisfactory completion of one of the following selections or an equivalent: RHET 105; RHET 108; RHET 100, 101, and 102; RHET 103 and 104; SPCOM 111 and 112; or ESL 114 and 115.

(2) Composition II. This requirement is met by completing an approved writing-intensive course.<sup>1</sup>

#### B. Quantitative reasoning

The quantitative reasoning requirement for College of Agriculture students must be completed with a college-level mathematics course. Students should consult the requirements for the specific academic program to identify the appropriate course.

Although not implemented from the 1989 guidelines, the following additional general education categories remain in place from former campus general education guidelines.

—Humanities—6 semester hours<sup>1</sup>

—Social sciences—6 semester hours<sup>1</sup>

—Natural science—6 semester hours chosen from biological science and physical science categories<sup>1</sup>

1. Student should consult the 1994-96 *College of Agriculture Student Handbook* for current listings of acceptable courses within each category.

### COURSE PLACEMENT

All students admitted to the College of Agriculture are required to complete mathematics, chemistry, English, and foreign language tests during the precollege testing program.

**Mathematics:** All students in a College of Agriculture curriculum who entered college in the fall 1992 semester and beyond are subject to campus quantitative reasoning requirements. Although mathematics requirements vary by curricula, students are required to take at least one college-level mathematics course beyond college algebra and trigonometry. Based on their performance on the mathematics placement test, some students may be encouraged to take a college algebra course for no graduation credit prior to enrollment in the upper-level course.

**Chemistry:** To take CHEM 101, a student must have a satisfactory score on the Chemistry Placement Test and a mathematics placement score that demonstrates competency beyond college algebra. Students who have not had high school chemistry or who do not score high enough on the Chemistry Placement Test must take CHEM 100 before taking CHEM 101.

**English:** Minimum English requirements in all College of Agriculture curricula include a semester of composition, a semester of public speaking, and a semester of advanced writing. Freshman students will fulfill the first two parts of the requirement by completing RHET 105—Principles of Composition and SPCOM 101—Principles of Effective Speaking; or SPCOM 111 and 112—Verbal Communication.

**Foreign Language:** Foreign language is not a graduation requirement in the College of Agriculture. However, the foreign language placement test is required in case students elect to continue study in that language for elective credit.

### Special Programs

#### SCHOLARSHIP INFORMATION

The College of Agriculture recognizes entering students who have outstanding scholastic records with scholarship assistance not based on financial need. Entering freshmen are eligible to compete for \$4,000 Jonathan Baldwin Turner Scholarships. A student who ranks in the upper 10 percent of his or her high school class at the end of the junior year or who has an ACT composite score of 27 or better is encouraged to submit a scholarship application. Interviews are conducted between the junior and senior year in high school. Transfer students with the most outstanding academic records at the institutions of previous attendance are recognized each year with \$500 transfer student scholarships. Additional information and scholarship application forms may be obtained from the Office of Academic Programs, 104 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801.

Additional scholarships within the college, to recognize academic merit, are awarded to continuing students based on their record earned at the University of Illinois at Urbana-Champaign. See page 26

for a description of financial assistance available based on demonstrated financial need.

## CURRICULA

### CORE CURRICULUM IN AGRICULTURE

#### For the Degree of Bachelor of Science in Agriculture

This is a core curriculum in that it provides for a common core program for the first two years. A student who desires an agriculture curriculum but is uncertain as to a specific major is encouraged to select this curriculum. All core curriculum students must select majors by the start of the junior year. The core curriculum is similar to the first two years of the program for students majoring in agricultural economics, agricultural mechanization, agronomy, animal sciences, and horticulture. A student interested in a specialized agriculture curriculum (see pages 54 through 63) is encouraged to enter directly into that program as a freshman.

The core program includes a foundation of general education courses. In addition, the student must choose from among several introductory agriculture courses. These are used to fulfill a graduation requirement but also provide an excellent opportunity for the student to explore the various curricular options within the college in preparation for selecting a specific major.

Upon completion of all requirements of this curriculum, with an approved major and a minimum of 126 hours of credit, the student is awarded the degree of bachelor of science in agriculture.

HOURS	PRESCRIBED COURSES
4	RHET 105 or 108—Composition (see English course placement listing, page 49)
3	SPCOM 101—Principles of Effective Speaking
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems <sup>1</sup>
9-10	Agriculture core courses: three as listed below, and as required for student's major
8-9	Biological sciences: one or more of the following areas, as required by the student's major: PLBI 100—Plant Biology MCBI 100—Introductory Microbiology and MCBI 101—Introductory Experimental Microbiology BIOL 104—Animal Biology
4	CHEM 101—General Chemistry (see chemistry course placement listing, page 49)
4	CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies <sup>2</sup>
3-5	Quantitative Reasoning I (Mathematics) <sup>3</sup>
9	Social sciences courses (see page 49)
6	Humanities courses (see page 49)

1. AGR 100—Contemporary Issues in the Food, Agriculture, and Natural Resource Systems (2 hours) is required for entering freshmen only. Transfer students are exempt.

2. Agriculture economics students substitute MATH 134—Calculus for Social Scientists, I, for Chemistry 102 or 103.

3. Students should consult the *College of Agriculture Student Handbook* for the mathematics course recommended for their intended curriculum of study.

#### Agriculture Core Courses

In addition to AGR 100, one course from each of the three of the four areas listed below must be completed by each student in this curriculum.

HOURS	AGRICULTURAL ECONOMICS
4	AG EC 100—Introductory Agriculture Economics
	AGRICULTURAL MECHANIZATION AND FOOD SCIENCE
3	Choose one of the following: AG M 100—Engineering Applications in Agriculture FS 101—Food in Modern Society
	ANIMAL SCIENCES
4	ANSCI 100—Introduction to Animal Sciences
	PLANT AND SOIL SCIENCES
3-4	Choose one of the following: AGRON 121—Principles of Field Crop Science FOR 101—Introduction to Forestry HORT 100—Introductory Horticulture SOILS 101—Introductory Soils

#### First year

Courses must be chosen from those listed on this page and must include one agriculture core course each semester in addition to AGR 100.

HOURS	FIRST SEMESTER
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
3-4	Agriculture core course
3-4	Biological science or chemistry
3-5	Mathematics
3-4	RHET 105—Composition or SPCOM 111—Verbal Communications
14-17	Total
HOURS	SECOND SEMESTER
3-4	Agriculture core course
4	Mathematics or natural science
3	AG EC 161—Microcomputer Uses in Agriculture
3	SPCOM 101—Principles of Effective Speaking or SPCOM 112—Verbal Communication
3	Humanities, social science or elective
16-17	Total

#### Second year

The student will, in consultation with an adviser, select from those courses listed as prescribed and appropriate to his or her intended major in this curriculum.

#### Third and fourth years

For the third and fourth years, see the requirements of the approved major. In addition to the prescribed courses listed above, the requirements include completion of (1) all prescribed courses listed for the major, (2) additional courses as required to total 40 hours in agriculture (35 hours in agricultural economics), and (3) sufficient open electives to bring the total hours to 126.

#### MAJOR IN AGRICULTURAL ECONOMICS

This major is designed for students preparing for employment in positions involving economic and social decision-making in agricultural and related occupations. Concentration in areas of career preparation is possible by selection of course alternatives within required groups of courses and in elective courses. Examples of concentration areas are agribusiness management, agricultural finance, agricultural marketing and price analysis, farm management, international agricultural development, natural resource economics, agricultural and food policy, and rural sociology. These interest areas are not mutually exclusive, and they may be combined in many ways to fit the needs and interests of the student. Course selections recommended for these concentration areas are given in the *College of Agriculture Student Handbook*.

A large number of courses offered by the College of Commerce and Business Administration are recommended for students in specific agricultural economics concentrations. Two special programs are available for students with specific business interests in (1) the agricultural economics/accountancy program in which the agricultural economics graduate is eligible to sit for the certified public accountant examination at the end of the undergraduate degree; and (2) the five-year B.S. in agriculture/M.B.A. degree program. Information on both programs is available from the Department of Agricultural Economics.

Upon completion of the curriculum requirements and a minimum of 126 hours of credit, the student is eligible for the degree of bachelor of science in agriculture.

HOURS	CURRICULUM REQUIREMENTS
4	RHET 105 or 108—Composition
3	SPCOM 101—Principles of Effective Speaking
3	Choose from: B&T W 250—Principles of Business Writing B&T W 253—Business and Administrative Communication
	RHET 133—Principles of Composition
3	MATH 124—Finite Mathematics
4-5	MATH 134—Calculus for Social Scientists, I, or MATH 120—Calculus and Analytic Geometry, I
3	AG EC 161—Microcomputer Uses in Agriculture and Human Resources and Family Studies, or CS 103, 105, or 106—Introduction to Computers and Their Applications
4-6	AG EC 261—Agricultural Economic Statistics; or ECON 172—Economic Statistics, I and ECON 173—Economic Statistics, II
3	ACY 201—Principles of Accounting, I
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
4	AG EC 100—Introductory Agricultural Economics
6-8	Agriculture core courses—two as listed below

8-10	CHEM 101 and one other natural science course listed below
16	Social sciences from at least two departments, including ECON 103—Macroeconomic Principles ECON 300—Intermediate Microeconomic Theory, or ECON 301—Intermediate Macroeconomic Theory
6	Humanities courses
35	Agriculture courses including at least 20 hours of agricultural economics <sup>1</sup>
29-34	Open electives

<sup>1</sup> ACR 100, AG EC 100, and two agriculture core courses count toward this 35-hour requirement. AG EC 161 and 261 are excluded from this total.

<b>HOURS</b>	<b>AGRICULTURE CORE COURSES</b>
3	AG M 100—Engineering Applications in Agriculture, or F S 101—Food in Modern Society
3-4	Choose one: AGRON 121—Principles of Field Crop Science FOR 101—Introduction to Forestry HORT 100—Introduction to Horticulture SOILS 101—Introductory Soils
4	ANSCI 100—Introduction to Animal Sciences
<b>HOURS</b>	<b>NATURAL SCIENCE COURSES</b>
4	BIOL 104—Animal Biology
4	CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies
4	GEOL 101—An Introduction to the Study of the Earth, or GEOL 107—General Geology, I
5	MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
4	PLBIO 100—Plant Biology
5	PHYS 101—General Physics

#### MAJOR IN AGRICULTURAL MECHANIZATION—INDUSTRIAL OPTION

This option is for students interested in the management, marketing, and application of agricultural technologies. The option prepares technically competent business persons for professional careers with service organizations, retail dealers, power suppliers, contractors, and management companies, from production through processing and distribution.

For common core requirements, see Core Curriculum in Agriculture on page 50. Other courses required for this major are:

<b>HOURS</b>	<b>PRESCRIBED COURSES IN AGRICULTURE</b>
4	AG EC 100—Introductory Agricultural Economics, or ANSCI 100—Introduction to Animal Sciences
3-4	AG EC 220—Farm Management
3	AG M 100—Engineering Applications in Agriculture
1	AG M 299—Agricultural Mechanization Seminar
3	AG M 341—Engine and Tractor Power
4	SOILS 101—Introductory Soils
4	AGRON 121—Principles of Field Crop Science
12	Choose from the following: AG M 200—Agricultural Mechanics Shop: Construction Technology AG M 202—Welding Processes, Metallurgy, and Materials AG M 203—Electric Wiring, Motors, and Controls AG M 221—Farm Power and Machinery Management AG M 250—Internship AG M 252—Mechanics of Soil and Water Conservation AG M 271—Engineering Applications in Residential Housing AG M 272—Farm Buildings AG M 281—Grain Drying, Handling, and Storage AG M 300—Special Problems AG M 333—Agricultural Chemical Application Systems AG M 372—Livestock Waste Management
40	Elective courses in agriculture to yield this minimum total in agriculture courses
6	Humanities (see page 49)
9	Social sciences from two departments (see page 49), including ECON 102—Microeconomic Principles and ECON 103—Macroeconomic Principles
<b>HOURS</b>	<b>OTHER PRESCRIBED COURSES</b>
3	ACCY 200—Fundamentals of Accounting, or ACCY 201—Principles of Accounting, I
3	AG EC 161—Microcomputer Uses in Agriculture and Human Resources and Family Studies, or C S 105 or 106—Computer Science
5	PHYS 101—General Physics (Mechanics, Heat and Sound)
5	PHYS 102—General Physics (Light, Electricity, and Magnetism), if CHEM 102 is not taken

12	Choose from the following: AG COM 270—Agricultural Sales Communications AG EC 302—Agricultural Finance AG EC 305—Agricultural Policies and Programs AG EC 338—Agribusiness Management B ADM 202—Principles of Marketing B ADM 210—Management and Organizational Behavior B ADM 247—Introduction to Management B ADM 261—Summary of Business Law B ADM 320—Marketing Research B ADM 321—Industrial Social Systems B ADM 352—Pricing Policies B&T W 271—Sales Writing SPCOM 211—Business and Professional Speaking FIN 254—Introduction to Business Financial Management
3-4	A course in statistics <sup>1</sup>
3	Composition II requirement <sup>2</sup>
126	Core courses and open electives yield this total

- Chosen from STAT 100, PSYCH 233, AG EC 261, ECON 171, 172.
- See list of approved composition courses

#### MAJOR IN AGRICULTURAL MECHANIZATION—EQUIPMENT OPERATIONS OPTION

This option is for students who are interested in equipment and plant operations. Graduates work as managers for large-scale operations as contractors, confinement livestock housing operators, processing plant operators, field foremen for corporation farmers, or as farm operators.

For common core requirements of this major, see page 50. Other courses required for this major are:

<b>HOURS</b>	<b>PRESCRIBED COURSES IN AGRICULTURE</b>
3	AG M 100—Engineering Applications in Agriculture
4	AG M 221—Farm Power and Machinery Management
1	AG M 299—Seminar
4	AG EC 100—Introductory Agricultural Economics, or ANSCI 100—Introduction to Animal Sciences
3-4	AG EC 220—Farm Management
4	SOILS 101—Introductory Soils
12	AGRON 121—Principles of Field Crop Science
	Choose from the following agricultural mechanization courses: AG M 200—Agricultural Mechanization Shop: Construction Technology AG M 202—Welding Processes, Metallurgy, and Materials AG M 203—Electric Wiring, Motors, and Controls AG M 250—Internship AG M 252—Mechanics of Soil and Water Conservation AG M 271—Engineering Applications in Residential Housing AG M 272—Farm Buildings AG M 281—Grain Drying, Handling, and Storage AG M 300—Special Problems AG M 333—Agricultural Chemical Application Systems AG M 341—Engine and Tractor Power AG M 372—Livestock Waste Management AG M 381—Electro-Mechanical Agricultural Systems
12	Choose from the following production and management courses: AG EC 203—Farm Taxation AG EC 230—Marketing of Agricultural Products AG EC 302—Agricultural Finance AG EC 303—Agricultural Law AG EC 312—Rural Real Estate Appraisal AG EC 324—Decision-Making for Farm Operators SOILS 303—Soil Fertility and Fertilizers SOILS 304—Soil Management and Conservation AGRON 318—Crop Growth and Production AGRON 322—Forage Crops and Pastures ANSCI 307—Environmental Aspects of Animal Management HORT 242—Vegetable Crop Production
40	Total minimum agriculture hours
6	Humanities (see page 49)
9 min	Social sciences from two departments, including ECON 102—Microeconomic Principles, and ECON 103—Macroeconomic Principles
<b>HOURS</b>	<b>OTHER PRESCRIBED COURSES</b>
3	ACCY 200—Fundamentals of Accounting, or ACCY 201—Principles of Accounting, I
3	AG EC 161—Microcomputer Uses in Agriculture and Human Resources and Family Studies, or C S 105 or 106—Computer Science



5	PHYS 101—General Physics (Mechanics, Heat, and Sound)
5	PHYS 102—General Physics: Light, Electricity, and Magnetism, if CHEM 102 or 103 is not taken
3-4	A course in statistics <sup>1</sup>
3	Composition II requirement <sup>2</sup>
126	Core courses and open electives to yield this total

1. Chosen from STAT 100, PSYCH 233, AG EC 261, ECON 171, 172.

2. Chosen from list of approved composition courses.

### MAJOR IN AGRONOMY

The major in agronomy is designed for students with an interest in agronomic crops or soils. The crops option prepares students for careers in crop production and marketing, crop systems management, plant breeding, biotechnology, and seed merchandising. The soils option is designed for students having an interest in soil management and conservation, soil survey, water quality, and plant nutrient merchandising. The crop protection option provides a broad selection of courses in crops and soils, plant diseases, insects and weeds, the physical sciences, and communications. The agroecology option addresses ecologically based management of cropping systems, stewardship of the environment, and sustainable food production systems. The latter two options are designed to prepare students for careers in integrated pest management, crop consulting, agrichemical management, and merchandising. Students who wish to pursue graduate work can supplement the major with suitable choices of electives, or they may select the agricultural science major.

For common core requirements of this major, see page 50. Other courses required for this major are:

HOURS	PREScribed COURSES IN AGRICULTURE
4	SOILS 101—Introductory Soils
4	AGRON 121—Principles of Field Crop Science
1	AGRON 290—Undergraduate Agronomy Seminar
4	AG EC 100—Introductory Agricultural Economics
40	Required and elective courses in agriculture to yield this minimum total (see below)

### Crops Option

HOURS	REQUIRED AGRICULTURE COURSES
3	PL PA 204—Introductory Plant Pathology
12	Select from the following:
	AGRON 220—Plant and Animal Genetics
	AGRON 315—Genetics of Higher Organisms
	AGRON 318—Crop Growth and Production
	AGRON 319—Environment and Plant Ecosystems
	AGRON 322—Forage Crops and Pastures
	AGRON 323—Principles of Plant Breeding
	AGRON 324—Plant Breeding Methods
	AGRON 326—Weeds and Their Control
	AGRON 330—Plant Physiology
	AGRON 336—Perennial Grass Ecosystems
	AGRON 337—Ecology of Cropping Systems
	AGRON 350—Crops and Society
	AGRON 377—Diseases of Field Crops
6	Select from the following:
	SOILS 301—Pedology
	SOILS 302—Soil Testing Practicum
	SOILS 303—Soil Fertility and Fertilizers
	SOILS 304—Soil Conservation and Management
	SOILS 305—Soil Microbiology
	SOILS 306—Field Pedology
	SOILS 307—Soil Chemistry
	SOILS 308—Physics of the Plant Environment
	SOILS 311—Laboratory Method for Soils Research
	SOILS 313—Soil Mineralogy

### Soils Option

HOURS	REQUIRED AGRICULTURE COURSES
3	AGRON 330—Plant Physiology
18	Select from the following:
	SOILS 301—Pedology
	SOILS 302—Soil Testing Practicum
	SOILS 303—Soil Fertility and Fertilizers
	SOILS 304—Soil Conservation and Management
	SOILS 305—Soil Microbiology
	SOILS 306—Field Pedology
	SOILS 307—Soil Chemistry
	SOILS 308—Physics of the Plant Environment
	SOILS 311—Laboratory Method for Soils Research
	SOILS 313—Soil Mineralogy

6-7	Select two courses from:
	AGRON 220—Plant and Animal Genetics
	AGRON 318—Crop Growth and Production
	AGRON 319—Environment and Plant Ecosystems
	AGRON 322—Forage Crops and Pastures
	AGRON 326—Weeds and Their Control

### Crop Protection Option

HOURS	REQUIRED AGRICULTURE COURSES
3-4	AGRON 220—Plant and Animal Genetics, or AGRON 330—Plant Physiology
3	AGRON 326—Weeds and Their Control
3	ENTOM 120—Introduction to Applied Entomology
4	ENTOM 319—Fundamentals of Insect Pest Management
3	HORT 100—Introduction to Horticulture
3	Choose from:
	HORT 242—Commercial Vegetable Production
	HORT 261—Small Fruit and Viticulture Science
	HORT 262—Tree Fruit Science
3	PL PA 204—Introductory Plant Pathology
3	PL PA 305—Principles of Plant Disease Control, or PL PA 377—Diseases of Field Crops
3	SOILS 301—Pedology, or SOILS 303—Soil Fertility and Fertilizers

### Agroecology Option

HOURS	REQUIRED AGRICULTURE COURSES
2	AGRON 321—Biological Control of Insect Pests
3	AGRON 326—Weeds and Their Control
3	AGRON 337—Ecology of Cropping Systems
3	ENTOM 120—Introduction to Applied Entomology
3	PL PA 204—Introductory Plant Pathology
3	SOILS 304—Soil Conservation and Management, or SOILS 305—Soil Microbiology
3-4	SOILS 307—Soil Chemistry, or SOILS 308—The Physics of the Plant Environment
6	Select two courses from:
	AGRON 318—Crop Growth and Production
	AGRON 319—Environment and Plant Ecosystems
	AGRON 322—Forage Crops and Pastures
	SOILS 301—Pedology

### HOURS OTHER PRESCRIBED COURSES (ALL OPTIONS EXCEPT WHERE NOTED)

3	Choose from:
	B&T W 250—Principles of Business Writing
	B&T W 252—Technical Communications
	B&T W 253—Business and Administrative Communication
3	Statistics
3	CHEM 231—Elementary Organic Chemistry
4	GEOL 101—An Introduction to the Study of the Earth, or
4	GEOL 107—General Geology, I
3	CHEM 122—Quantitative Chemistry (Soils only)
5	PHYS 101—General Physics (Soils only)
5	EE 212—Basic Ecology (Agroecology only)
6	Humanities (see page 49)
9	Social sciences (see page 49)
126	Core courses and open electives to yield this total

### MAJOR IN ANIMAL SCIENCES

The management option in animal sciences is designed for the student intending to pursue a career in animal management or in one of the associated industries upon completion of the undergraduate degree. It emphasizes the scientific disciplines involved in animal production and includes business courses. Students complete requirements in one of several specializations. The science option is designed for the student interested in graduate or professional training or in a technical position after receiving the undergraduate degree. It is intended to satisfy most of the entrance requirements to postgraduate programs, but students should consult the entrance requirements of specific programs they intend to pursue.

For common core requirements of this major, see page 50. Other courses required for this major are:

### Management Option

HOURS	PREScribed COURSES IN AGRICULTURE
4	ANSCI 100—Introduction to Animal Sciences
4	ANSCI 202—Domestic Animal Physiology
4	ANSCI 220—Plant and Animal Genetics
4	ANSCI 221—Animal Nutrition
1	ANSCI 250—Animal Sciences Internship, or AN S 299—Animal Management Field Studies

1	ANSCI 298—Undergraduate Seminar	ANSCI 308—Physiology of Lactation
12-16	Students select one of the following specializations:	ANSCI 309—Meat Science
	<b>BEEF</b>	ANSCI 310—Genetics of Domestic Animals
	ANSCI 119—Meat Technology, or ANSCI 209—Meat Animal and Carcass Evaluation	ANSCI 312—Animal Growth and Development
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	ANSCI 316—Population Genetics
	ANSCI 301—Beef Production	ANSCI 317—Quantitative Genetics
	ANSCI 305—Genetics and Animal Improvement	ANSCI 320—Nutrition and Digestive Physiology of Ruminants
	<b>COMPANION ANIMALS</b>	ANSCI 331—Physiology of Reproduction in Domestic Animals
	ANSCI 206—Light Horse Management	ANSCI 345—Statistical Methods
	ANSCI 207—Companion Animal Management	ANSCI 346—Animal Behavior
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	ANSCI 385—Gastrointestinal and Methanogenic Microbial Fermentations
	ANSCI 305—Genetics and Animal Improvement	AG EC 330—Economics of Commodity Marketing
	<b>DAIRY</b>	One course chosen from:
	ANSCI 201—Principles of Dairy Production	ANSCI 119—Meat Technology
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	ANSCI 201—Principles of Dairy Production
	AN S 300—Dairy Herd Management	ANSCI 206—Light Horse Management
	AN S 305—Genetics and Animal Improvement	ANSCI 207—Companion Animal Management
	AN S 308—Physiology of Lactation	ANSCI 209—Meat Animal and Carcass Evaluation
	<b>POULTRY</b>	ANSCI 300—Dairy Herd Management
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	ANSCI 301—Beef Production
	ANSCI 304—Poultry Management	ANSCI 302—Sheep Science
	ANSCI 305—Genetics and Animal Improvement	ANSCI 303—Pork Production
	ANSCI 307—Environmental Aspects of Animal Management	ANSCI 304—Poultry Management
	<b>SHEEP</b>	40 Minimum hours of agriculture core courses and elective courses in agriculture to yield this total
	ANSCI 119—Meat Technology, or AN S 209—Meat Animal and Carcass Evaluation	3 AG EC 161—Microcomputer Uses in Agriculture and Human Resources and Family Studies, or C S 101, 103, 105, 106, or equivalent
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	3 Composition II requirement <sup>1</sup>
	ANSCI 302—Sheep Science	18-23 Five courses from the following with at least two of the first three:
	ANSCI 305—Genetics and Animal Improvement	PLBIO 100—Plant Biology
	<b>SWINE</b>	BIOL 104—Animal Biology <sup>2</sup>
	ANSCI 119—Meat Technology, or AN S 209—Meat Animal and Carcass Evaluation	MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth	CHEM 231—Elementary Organic Chemistry, and CHEM 234—Elementary Organic Chemistry Laboratory
	ANSCI 302—Pork Production	BIOLCH 350—Introductory Biochemistry, or ANSCI 290—Introduction to Metabolism in Domestic Animals
	ANSCI 305—Genetics and Animal Improvement	PHYS 101—General Physics (Mechanics, Heat, and Sound)
	<b>MEATS</b>	STAT 100—Statistics, or ANSCI 340—Introduction to Applied Statistics
	ANSCI 119—Meat Technology	126 Core courses (see page 50) and open electives to yield this total
	ANSCI 209—Meat Animal and Carcass Evaluation	
	ANSCI 309—Meat Science	
	AG EC 330—Economics of Commodity Marketing	
	Choose from	
	ANSCI 201—Principles of Dairy Production	
	ANSCI 301—Beef Production	
	ANSCI 302—Sheep Science	
	ANSCI 303—Pork Production	
	ANSCI 304—Poultry Management	
40	Agriculture core courses and elective courses in agriculture to yield this minimum total in agriculture courses	
3	CHEM 231—Organic Chemistry, or ANSCI 290—Introduction to Metabolism in Domestic Animals	
3	AG EC 161—Microcomputer Uses in Agriculture and Human Resources and Family Studies, or an introductory computer science course	
3-4	Choose from:	
	AG EC 220—Farm Management	
	ACCY 200—Fundamentals of Accounting	
	ACCY 201—Principles of Accounting, I	
3	Composition II <sup>1</sup>	
126	Core courses (see page 50) and open electives to yield this total	

1. Chosen from B&T W 250 or 253; RHET 133 and 143.

2. BIOL 120, 121, and 122 may be substituted for PLBIO 100 and BIOL 104.

## MAJOR IN HORTICULTURE

This major is for students who desire a basic general knowledge of horticulture. Emphasis is placed on the basic plant sciences to give a general background for the specialized phases of horticulture, particularly those concerned with the production of horticultural food crops, mainly fruits and vegetables.

Students who are interested in the production and use of flowers and other ornamental crops should consult the ornamental horticulture curriculum (see page 59).

For common core requirements, see page 50. Other courses required in this major are:

HOURS	PREScribed COURSES IN AGRICULTURE
3	AG M 100—Engineering Applications in Agriculture
4	SOILS 101—Introductory Soils
3	ENTOM 120—Introduction to Applied Entomology
3	F S 101—Food in Modern Society
3	HORT 100—Introduction to Horticulture
4	HORT 220—Plant and Animal Genetics
3	HORT 221—Plant Propagation
3	HORT 242—Commercial Vegetable Production
3	HORT 261—Small Fruit and Viticulture Science
3	HORT 262—Tree Fruit Science
4	HORT 321—Floricultural Physiology, or HORT 345—Growth and Development of Horticultural Crops
3	PL PA 204—Introductory Plant Pathology
6	Additional horticulture courses, except HORT 125—Survey of Landscape Horticulture, HORT 190—Home Vegetable Gardening, and HORT 233—Floriculture for the Home
40	Minimum hours of elective courses in agriculture to yield this total

## Science Option

HOURS	PREScribed COURSES IN ANIMAL SCIENCES
4	ANSCI 100—Introduction to Animal Sciences
4	ANSCI 202—Domestic Animal Physiology
4	ANSCI 220—Plant and Animal Genetics
4	ANSCI 221—Animal Nutrition
3	ANSCI 231—Comparative Physiology of Reproduction, Lactation, and Growth
1	ANSCI 298—Undergraduate Seminar
11-16	Four courses chosen from:
	ANSCI 203—Behavior of Domestic Animals, or ANSCI 346—Animal Behavior
	ANSCI 305—Genetics and Animal Improvement
	ANSCI 306—Equine Science
	ANSCI 307—Environmental Aspects of Animal Management

15	Humanities and social sciences: an approved 6 hours in the humanities; a minimum of 9 hours from two departments in the social sciences, including ECON 102—Microeconomic Principles, and ECON 103—Macroeconomic Principles
<b>HOURS</b>	<b>OTHER PRESCRIBED COURSES</b>
3	PLBIO 234—Form and Function of Flowering Plants
126	Core courses and open electives to yield this total

## CURRICULUM IN AGRICULTURAL COMMUNICATIONS

### For the Degree of Bachelor of Science in Agriculture

This major is designed for students who wish to pursue careers in the combined fields of agriculture and communications. It seeks to prepare them for work as professionals in agricultural writing, editing, and publishing; public relations; advertising; radio and television broadcasting; photography; and related activities. The College of Agriculture and the College of Communications offer this curriculum cooperatively. It allows the planning of study programs closely related to the student's interests in one of three communications options: news-editorial, advertising, or broadcast journalism.

Upon completion of the curriculum requirements and a minimum of 126 hours of credit, the student is awarded the degree of bachelor of science in agriculture.

#### First year

<b>HOURS</b>	<b>FIRST SEMESTER</b>
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
1	AGCOM 110—Introduction to Agricultural Communications
3-4	Agriculture core course (see page 50)
3	CHEM 100—Introductory Chemistry, or exemption
3	Mathematics <sup>1</sup>
3-4	RHET 105 or 108—Composition (see English course placement section, page 49)
15-17	Total
<b>HOURS</b>	<b>SECOND SEMESTER</b>
3-4	Agriculture core course
3	SPCOM 101—Principles of Effective Speaking
4-5	Biological sciences course <sup>2</sup>
3	Social sciences course <sup>3</sup>
2-3	Elective
15-18	Total

#### Second year

<b>HOURS</b>	<b>FIRST SEMESTER</b>
3-4	Agriculture core course
3	AGCOM 114—Agricultural Communications Media and Methods <sup>4</sup>
3-4	Physical sciences course <sup>5</sup>
6	Social sciences course <sup>3</sup>
16-18	Total
<b>HOURS</b>	<b>SECOND SEMESTER</b>
3	Agriculture elective
3	AGCOM 214—Agricultural Communications Strategy
4-5	Biological sciences course
3	Humanities course (see page 49)
3	Social sciences course
16-17	Total

1. Students should consult the College of Agriculture for the specific mathematics course needed to meet the quantitative reasoning general education requirement.

2. Two of the following are required in this curriculum: PLBIO 100—Plant Biology; BIOL 104—Animal Biology; MCBO 100—Introductory Microbiology, and MCBO 101—Introductory Experimental Microbiology.

3. A minimum of 15 hours is required, including ECON 103—Macroeconomic Principles, PSYCH 100—Introduction to Psychology, and POL S 150—American Government.

4. A minimum of 35 hours of agriculture courses is required, including AGCOM 310—Information for Agriculture; and AGCOM 290—Professional Seminar. At least 10 of the 35 hours must be in agriculture electives other than agricultural communications, with at least 8 hours at the 200-300 level.

5. A minimum of 10 hours is required from astronomy, atmospheric sciences, chemistry, geology, or physics. CHEM 100 cannot be included in the 10 hours.

#### Third and fourth years

Students complete requirements in the agriculture, physical sciences, social sciences, and humanities areas along with a minimum 20-hour communications requirement selected from one of the following options:

### Advertising Option

<b>HOURS</b>	<b>REQUIRED COURSES</b>
3	ADV 281—Introduction to Advertising
3	ADV 381—Advertising Research Methods
3	ADV 382—Advertising Creative Strategy and Tactics
3	ADV 383—Advertising Media Planning
3	ADV 391—Advertising Management: Planning
3	ADV 392—Advertising Management: Strategy and Tactics
Electives in communications to complete the 20-hour requirement.	

### News-Editorial Option

<b>HOURS</b>	<b>REQUIRED COURSES</b>
4	JOURN 350—Reporting, I
4	JOURN 360—Graphic Arts
4	JOURN 370—News Editing
3	One course from the following: JOURN 217—History of Communications JOURN 218—Communications and Public Opinion JOURN 220—Communications and Popular Culture JOURN 231—Mass Communication in a Democratic Society JOURN 241—Law and Communications JOURN 251—Social Aspects of Mass Communications
3-4	One course from the following: JOURN 326—Magazine Article Writing JOURN 330—Magazine Editing JOURN 372—Broadcast News Writing and Gathering JOURN 380—Reporting, II

Electives in communications to complete the 20-hour requirement

### Broadcast Journalism Option

<b>HOURS</b>	<b>REQUIRED COURSES</b>
3	JOURN 241—Law and Communications
4	JOURN 350—Reporting, I
4	JOURN 362—Broadcast News Production
4	JOURN 372—Broadcast News Writing and Gathering
4	JOURN 382—Broadcast News Editing
Electives in communications to complete the 20-hour requirement	

## MAJOR IN AGRICULTURAL EDUCATION

### For the Degree of Bachelor of Science in Agriculture

The primary purpose of the major in agricultural education is to prepare students to teach agriculture in high schools that offer agricultural education programs and to work in informal teaching settings such as the Cooperative Extension Service, agribusiness, and other community and governmental agencies. Students may earn a dual major in agricultural education and one of 19 other majors in the College of Agriculture. In addition to the educational experience outlined in this curriculum, the state of Illinois certification requirements call for a minimum of one year or 2,000 hours of employment experience in agriculture. Students completing the teacher certification program will be automatically eligible for dual certification in agriculture and general science. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

A minimum of 130 hours of credit is required for graduation. A sample program, with the recommended order of courses appears page 50. All students select one of three curricular options.

### General Education Requirements

<b>HOURS</b>	<b>COMMUNICATIONS</b>
6-7	SPCOM 111 and 112; or RHET 105 or 108, and SPCOM 101
3	Additional writing course <sup>1</sup>
<b>HOURS</b>	<b>NATURAL SCIENCES</b>
4	BIOL 104—Animal Biology
4	PLBIO 100—Plant Biology
8	CHEM 101, and CHEM 102 or 103—General Chemistry
3	Mathematics <sup>1</sup>
19	Total
<b>HOURS</b>	<b>HUMANITIES<sup>1</sup></b>
15-16	Total to include one course each in American history, English or American literature, and non-Western culture
<b>HOURS</b>	<b>SOCIAL SCIENCES<sup>1</sup></b>
3	POL S 150—American Government: Organization and Powers
4	PSYCH 100—General Psychology
3	Electives



2	HEALTH/PHYSICAL DEVELOPMENT <sup>1</sup>
55-57	Total

1. Courses chosen from the Council on Teacher Education-approved list.

#### Professional Education

HOURS	COURSES
3	EP S 201—Foundations of American Education
3	EDPSY 211—Educational Psychology
3	VOTEC 309—Vocational Education for Special Needs Learners
3	AG ED 120—Agricultural Education Programs and Principles
2	AG ED 150—Observation and Program Analysis in Agricultural Education
1	AG ED 280—Pre-Internship in Agricultural Education
8	ED PR 242—Educational Practice in Secondary Education
3	AG ED 285—Delivery and Evaluation of Agricultural Education Programs
3	AG ED 310—Methods of Teaching Agriculture
1	AG ED 315—Agricultural Education Seminar
30	Total
HOURS	CORE COURSES IN AGRICULTURE
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
4	SOILS 101—Introductory Soils
6	Total

#### Approved Options

HOURS	PREScribed COURSES IN AGRICULTURE
40	Each student must select one of the three agricultural education options. The prescribed agriculture courses and elective agriculture courses must total 40 hours, including the 6 hours listed above, with at least 18 hours completed at the 200 or 300 level, including at least one 300-level course.

#### Agricultural Mechanization Option

HOURS	PREScribed COURSES IN AGRICULTURE
3	AG M 100—Engineering Applications in Agriculture
3	AG M 200—Agricultural Mechanics Shop: Construction Technology
3	AG M 202—Welding Processes, Metallurgy, and Materials
3	AG M 230—Electric Wiring, Motors, and Control
3-4	AG M 221—Farm Power and Machinery Management Choose from: AG M 331—Farm Machinery Technology AG M 333—Agricultural Chemical Application Systems AG M 341—Engine and Tractor Power AG M 381—Electrical and Microcomputer Controls for Agriculture
4	AGRON 121—Principles of Field Crop Science
6-7	Agriculture electives

#### Horticulture and Natural Resources Option

HOURS	PREScribed COURSES IN AGRICULTURE
3	AGRON 221—Biotechnology in Agriculture
3	FOR 101—Introduction to Forestry
3	FOR 283—Introductory Ecology for Educators
3	Choose one: FOR 290—Urban Forestry FOR 319—Environment and Plant Ecosystems FOR 326—Tree Physiology
3	HORT 201—Identification and Use of Woody Ornamental Plants, I
3	HORT 222—Greenhouse Management, or HORT 223—Floricultural Crops Production
3	Choose one: HORT 226—Bedding Plant Production HORT 227—Indoor Plant Culture HORT 230—Herbaceous Perennials
3	PL PA 204—Introductory Plant Pathology
3	AG EC elective
3	AG M elective
4	Agriculture electives

#### Science and Management Option

HOURS	PREScribed COURSES IN AGRICULTURE
3	AG EC 100—Introductory Agricultural Economics
3	AG EC 238—Food and Agribusiness Management
4	AGRON 121—Principles of Field Crop Science
3	AGRON 221—Biotechnology in Agriculture
3	AG M 100—Engineering Applications in Agriculture

4	ANSI 100—Introduction to Animal Sciences
3	FS 101—Food in Modern Society
12	Agriculture electives

#### MAJOR IN AGRICULTURAL SCIENCE

##### For the Degree of Bachelor of Science in Agriculture

This major is especially designed for the student who plans to do graduate study in an agricultural field or who wishes to engage in professional work requiring more science, mathematics, or engineering than is included in the core curriculum in agriculture. The flexibility of the options provides an opportunity for planning individual programs of study under the supervision of a faculty adviser qualified in the student's special field of interest. The faculty adviser may come from any of the academic departments within the College of Agriculture.

- OPTION 1. For students desiring preparation for graduate study or professional work in animal, plant, or soil science.
- OPTION 2. For students desiring preparation for graduate study or professional work in the fields included in agricultural economics, agricultural law, and rural sociology.
- OPTION 3. For students enrolled in the five-year combined agricultural science and agricultural engineering program.

To be eligible for admission to the major, students entering as freshmen must meet the minimum selection index as determined by high school ranks and test scores. Students entering as transfers must have a scholastic grade-point average in collegiate work of not less than 4.0 for Options 1 and 2 and 3.25 for Option 3 in terms of the grading system of the University of Illinois ( $A = 5.0$ ). Once enrolled, all students in Options 1 and 2 must maintain averages of at least 4.0, and those in Option 3 must maintain at least 3.0 for both their University of Illinois and cumulative averages to remain in and graduate from the curriculum. A summary of the minimum requirements for all three options follows:

OPTIONS I AND 3 MINIMUM HOURS	OPTION 2 MINIMUM HOURS	SUMMARY
10	10	English Composition <sup>1</sup> and speech
30	30	GROUP I: College of Agriculture courses (15 of the 30 hours must be at the 200- and 300-level). In Option 3, a maximum of 15 hours of agricultural engineering and agricultural mechanization courses may be credited toward the degree in agriculture.
6	6	GROUP II: Humanities (see page 49)
9	16	GROUP III: Social sciences (see page 49) In Option 2, at least 8 hours in economics must be included. In Option 2, a minimum of 54 hours must be completed in Groups III, IV, and V combined, including the minimum hours indicated for each group.
10	6	GROUP IV: Biological sciences (biology; ecology, ethology, and evolution; entomology; microbiology; physiology; plant biology; zoology) In Options 1 and 3, a total of 45 hours is required in Groups IV and V, with a minimum of 10 hours in each. In Option 2, a minimum of 54 hours must be completed in Groups III, IV, and V combined, including the minimum hours indicated for each group.
10	16	GROUP V: Physical sciences (biochemistry, chemistry, computer science, geology, mathematics, physics) and approved courses in statistics. An approved Quantitative Reasoning <sup>1</sup> course must be included in this total. In Options 1 and 3, a total of 45 hours is required in Groups IV and V, with a minimum of 10 hours in each. In Option 3, T A M 145 and 212 may be counted toward Group V. In Option 2, a minimum of 54 hours must be completed in Groups III, IV, and V combined, including the minimum hours indicated for each group.
26	26	Electives (unrestricted)
126	126	Total required for graduation

1. Consult the College of Agriculture for the approved general education lists in Composition II and Quantitative Reasoning I.

**Options 1 and 2: Sample Program**

Students in both options follow a first-year program closely related to the core curriculum as outlined on page 50 of this catalog. The programs for the second, third, and fourth years are planned in consultation with the student's faculty adviser to be consistent with the student's career objectives and the curriculum requirements summarized on page 49. Courses suggested to prepare students for admission to graduate study in various areas are included in the *College of Agriculture Student Handbook*. A total of 126 hours is required for graduation.

**Option 3: Sample Program****Five-Year Combined Program in Agricultural Science and Agricultural Engineering for the Degrees of Bachelor of Science in Agriculture and Bachelor of Science in Engineering**

Students enroll in the College of Agriculture for the first three years and then transfer to the College of Engineering for the last two years. At the completion of these five years, the student is awarded the bachelor of science in agricultural engineering from the College of Engineering and the bachelor of science in agriculture from the College of Agriculture.

As noted in the following suggested five-year outline, requirements for the first year are the same as in other engineering curricula. Courses in agricultural engineering begin in the third semester. In the third year, the student chooses technical electives for specialization in one of the following areas: processing; structures and environment; power and machinery; soil and water; and food engineering.

**First year**

HOURS	FIRST SEMESTER
1	AG E 100—Introduction to Agricultural Engineering
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Composition <sup>1</sup>
4	Biological sciences elective <sup>2,3</sup>
3	G E 103—Engineering Graphics, I
17	Total
HOURS	SECOND SEMESTER
4	CHEM 101—General Chemistry
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
3	SPCOM 101—Principles of Effective Speaking <sup>1</sup>
4	Agriculture science elective <sup>3,4</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
4	AG E 221—Engineering for Agricultural and Biological Systems
4	CHEM 102—General Chemistry
3	ECON 102 or 103—Economic Principles
4	PHYS 106—General Physics (Mechanics)
15	Total
HOURS	SECOND SEMESTER
2-3	T A M 150—Analytic Mechanics (Statics); or TAM 152—Engineering Mechanics, I (Statics)
4	AG E 222—Engineering for Bioprocessing and Bioenvironmental Systems
3	C S 101—Introduction to Computers
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
16-17	Total

**Third year**

HOURS	FIRST SEMESTER
4	Agriculture science elective <sup>3,4</sup>
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Wave Motion, Sound, Light, Modern Physics)
3	T A M 212—Engineering Mechanics, II (Dynamics)
3	Elective in social sciences or humanities <sup>5</sup>
17	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
4	Biological sciences elective <sup>3</sup>
3	T A M 221—Elementary Mechanics of Solids
3	C E 261—Introduction to Structural Engineering, or M F 220—Mechanics of Machinery <sup>6</sup>

4	Agriculture elective <sup>3,4</sup>
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
3	Agricultural engineering technical elective, Group I <sup>8</sup>
4	T A M 235—Fluid Mechanics
3-4	ECE 260 or 270—Introduction to Electrical Circuits
3	Agriculture elective <sup>3,4</sup>
3	Elective in social sciences or humanities <sup>5</sup>
16-17	Total
HOURS	SECOND SEMESTER
3	Agricultural engineering technical elective, Group I <sup>8</sup>
1	AG E 298—Seminar
3	M E 209—Thermodynamics and Heat Transfer
3	Agriculture science elective <sup>3,4</sup>
3	Elective in social sciences or humanities <sup>5</sup>
3	Composition II course
16	Total

**Fifth year**

HOURS	FIRST SEMESTER
3	Agricultural engineering technical elective, Group II <sup>8</sup>
3	Technical elective <sup>6</sup>
4	Agriculture science elective <sup>3,4</sup>
2	Biological sciences elective <sup>3</sup>
3	Humanities or social science course <sup>5</sup>
15	Total
HOURS	SECOND SEMESTER
3	Agricultural engineering technical elective, Group II <sup>8</sup>
2	AG E 299—Undergraduate Thesis
3	Humanities or social science course
8	Electives <sup>7</sup>
16	Total
158	Total for the degrees

- The SPCOM 111-112 sequence (6 hours) may be substituted for RHET 105 and SPCOM 101.
- A total of 10 hours in the biological sciences is required (biology; ecology, ethology, and evolution; entomology; microbiology; plant biology; physiology; zoology).<sup>5</sup>
- To meet engineering degree requirements, 12 hours of the biological and agricultural sciences (footnotes 2 and 4) must be chosen from the following: At least 8 hours from AGRON 121, 322, 326; ANSCI 307; BIOL 100, 101, 104; ENTOM 120; GEOL 101, 250; MCBIO 100; PLBIO 100; SOILS 101, 308; the remainder from AG E 220, 324, 325; AG M 200, 202, 203.
- A total of 15 hours of agricultural science other than agricultural engineering and agricultural mechanization is required. Recommended are AGRON 121, SOILS 101, and AG E 220.<sup>3</sup>
- A total of 12 hours in the social sciences and humanities are required in addition to ECON 102 and 103. An approved 6-hour sequence in both areas is required to meet College of Engineering requirements.
- Each student must have 18 to 20 hours of technical electives selected from the following: (1) C E 261 or M E 220; (2) two courses from agricultural engineering technical electives, Group I, and two courses from Group II; and (3) additional courses from other technical electives.
- Sufficient open electives to total the minimum curriculum requirement of 158 hours. All requirements of the combined curriculum (as outlined) must be completed to satisfy the requirements for both degrees.

**Agricultural Engineering Technical Electives**

HOURS	GROUP I
3	AG E 236—Machine Characteristics and Mechanisms
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurements
4	AG E 340—Introduction to Applied Statistics
3	AG E 383—Engineering Properties of Food Materials
HOURS	GROUP II
3	AG E 277—Design of Agricultural Structures
3	AG E 336—Design of Agricultural Machinery
3	AG E 346—Tractors and Prime Movers
3	AG E 356—Soil and Conservation Structures
3	AG E 357—Land Drainage
3	AG E 385—Food and Process Engineering Design
3	AG E 387—Agricultural Process Engineering

**Other Technical Electives**

A student may choose any course that satisfies the College of Engineering requirements for technical electives. A student desiring to specialize in a specific area of agricultural engineering may use the following lists as a guide in choosing technical electives. A food engineering specialization is also available and is described on page 93 of this catalog.

HOURS	ELECTRICAL POWER AND PROCESSING
3	AG E 236—Machine Characteristics and Mechanisms
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurements
3	AG E 336—Engineering Design Projects for Agricultural Industries
3	AG E 340—Introduction to Applied Statistics
3	AG E 383—Engineering Properties of Food Materials
2	AG E 385—Food and Process Engineering Design
3	AG E 387—Grain Drying and Conditioning
4	CHEM 323—Electronic Circuits, I
3	M E 213—Heat Transfer
3	M E 307—Solar Energy Utilization

HOURS	STRUCTURES AND ENVIRONMENT
3	AG E 277—Design of Agricultural Structures
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurements
3	AG E 340—Introduction to Applied Statistics
3	AG E 387—Grain Drying and Conditioning
3	C E 262—Intermediate Structural Analysis
3	C E 263—Behavior and Design of Metal Structures, I
3	C E 264—Reinforced Concrete Design, I
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering
3	C E 349—Air Resources Engineering
4	M E 308—Fluid Mechanics of Convective Heat Transfer
3	M E 323—Design of Thermal Systems

HOURS	POWER AND MACHINERY
3	AG E 236—Machine Characteristics and Mechanisms
3-4	AG E 311—Instrumentation and Measurements
3	AG E 336—Engineering Design Projects for Agricultural Industries
3	AG E 340—Introduction to Applied Statistics
3	AG E 346—Tractors and Prime Movers
3	ME 231—Engineering Materials
4	M E 270—Fundamentals of Mechanical Design
3	MFG E 210—Introduction to Manufacturing Systems
3	MFG E 350—Information Management for Manufacturing Systems

HOURS	SOIL AND WATER
3	AG E 277—Design of Agricultural Structures
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurements
3	AG E 340—Introduction to Applied Statistics
3	AG E 356—Soil and Water Conservation Structures
3	AG E 357—Land Drainage
3	C E 255—Introduction to Hydrosystems Engineering
3	C E 264—Reinforced Concrete Design, I
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering

## CURRICULUM IN FOOD INDUSTRY

### For the Degree of Bachelor of Science in Food Industry

Offered in the Department of Food Science. The food industry curriculum is more flexible than the food science curriculum and is designed to provide students with training in preparation for careers in the food industry in business administration, food engineering, food production, processing, quality control, and public health. A minimum of 130 hours of credit is required for graduation.

#### First year

HOURS	FIRST SEMESTER
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
3	F S 101—Food in Modern Society
5	MATH 120, 134, or 135—Calculus
4	RHET 105—Composition
14	Total
HOURS	SECOND SEMESTER
4	Biological sciences <sup>1</sup>
4	CHEM 101—General Chemistry
3	SPCOM 101—Principles of Effective Speaking
5	PHYCS 101—General Physics
16	Total

#### Second year

HOURS	FIRST SEMESTER
4	CHEM 102—General Chemistry
3	ECON 102—Microeconomic Principles
4	F S 260—Raw Materials for Processing

3	MCBIO 100—Introductory Microbiology
2	MCBIO 101—Introductory Experimental Microbiology
16	Total
HOURS	SECOND SEMESTER
3	CHEM 231—Elementary Organic Chemistry
3	ECON 103—Microeconomic Principles
3	F S 202—Sensory Evaluation of Food
3	Humanities or social sciences <sup>2</sup>
3	Elective <sup>3</sup>
3	Composition II <sup>4</sup>
18	Total

#### Third year

HOURS	FIRST SEMESTER
3	ACCY 200 or 201—Accountancy
4	F S 213—Food Analysis, I
3	F S 214—Food Chemistry
3	Humanities or social sciences <sup>2</sup>
4	Elective <sup>3</sup>
17	Total
HOURS	SECOND SEMESTER
3	F S 311—Food and Industrial Microbiology
3	F S 363—Engineering for Food Processing
2	MCBIO 312—Techniques of Applied Microbiology
3	Electives <sup>3</sup>
17	Total

#### Fourth year

HOURS	FIRST SEMESTER
1	F S 298—Senior Seminar
3	F S 301—Food Processing, I
3	Humanities or social sciences <sup>2</sup>
9	Electives <sup>3</sup>
16	Total
HOURS	SECOND SEMESTER
3	F S 302—Food Processing, II
2	F S 332—Sanitation in Food Processing
11	Electives <sup>3</sup>
16	Total

1. May be BIOL 104 or 120, PLBIO 100, or PHYSY 103.

2. A minimum of 9 hours from two departments, including ECON 102 and 103, are needed for the social science requirement and 6 hours for the humanities requirement. See the *College of Agriculture Student Handbook* for the approved lists.

3. Open electives are to include a specialized 15-hour group of courses selected by the student and adviser to meet specific career objectives. Examples include courses in business, engineering, and agricultural production. At least 6 hours must be at the 200 and 300 levels.

4. Students should consult the College of Agriculture for an approved list of Composition II courses.

## CURRICULUM IN FOOD SCIENCE

### For the Degree of Bachelor of Science in Food Science

The curriculum in food science gives the undergraduate a thorough background and understanding of the food industry. Four areas of emphasis are covered in the program: food microbiology, food chemistry, nutrition, and food engineering. Students are exposed to all components of food production: harvesting and raw-product handling, food-processing procedures and techniques, packaging, and food storage. Microbiology, chemistry, and nutrition are studied at all stages of food production. At the end of the four-year program, the graduate is prepared for a career in many areas of the food industry. These include, but are not limited to, employment in product development, sales, quality control, and plant management. A minimum of 130 hours of credit is required for graduation.

#### First year

HOURS	FIRST SEMESTER
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
3	F S 101—Food in Modern Society
5	MATH 120, 134, or 135—Calculus
4	RHET 105—Composition (see English course placement section, page 49)
4	CHEM 101—General Chemistry
18	Total



HOURS	SECOND SEMESTER
4	Biological sciences <sup>1</sup>
4	CHEM 102—General Chemistry
3	SPCOM 101—Principles of Effective Speaking
5	Humanities, social sciences or electives <sup>2</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
3	CHEM 231—Elementary Organic Chemistry
3	CHEM 234—Elementary Organic Chemistry Laboratory
5	PHYS 101—General Physics
4	F S 260—Raw Materials for Processing
3	Humanities, social sciences or electives <sup>2</sup>
17	Total
HOURS	SECOND SEMESTER
3	F S 202—Sensory Evaluation of Food
3	MCBIO 100—Introductory Microbiology
2	MCBIO 101—Introductory Experimental Microbiology
5	PHYS 102—General Physics
3	Elective <sup>2</sup>
16	Total

**Third year**

HOURS	FIRST SEMESTER
4	F S 213—Food Analysis, I
4	F S 314—Food Chemistry and Nutrition, I
3-4	Statistics <sup>1</sup>
3	Humanities or social sciences <sup>2</sup>
3	Composition II <sup>4</sup>
17-18	Total
HOURS	SECOND SEMESTER
4	F S 315—Food Chemistry and Nutrition, II
3	F S 363—Engineering for Food Processing
3	MCBIO 311—Food and Industrial Microbiology
2	MCBIO 312—Techniques of Applied Microbiology
4	Electives
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
1	F S 298—Senior Seminar
3	F S 301—Food Processing, I
11	Humanities, social sciences, or electives <sup>3</sup>
15	Total
HOURS	SECOND SEMESTER
3	F S 302—Food Processing, II
2	F S 332—Sanitation in Food Processing
10	Electives <sup>3</sup>
15	Total

1. May be BIOL 104 or 120, PLBIO 100, or PHYS 103.

2. A minimum of 9 hours of social sciences chosen from two departments and 6 hours of humanities must be selected. See the *College of Agriculture Student Handbook* for the approved lists. An additional number of electives are needed to reach a total of 130 hours.

3. A minimum of 3 hours of credit in one of the following statistics courses is required: MATH 161; ECON 171 or 172; PSYCH 223; AGRON 340; AG EC 261.

4. Students should consult the College of Agriculture for an approved list of Composition II courses.

**CURRICULUM IN FORESTRY****For the Degree of Bachelor of Science in Forestry**

The curriculum in forestry consists of two options. The forest science option prepares students for positions involving management of natural resources, particularly those associated with forests and forest land, including attention to environmental quality and ecology. The program is accredited by the Society of American Foresters. The wood products industries option prepares students for positions in public or private wood research or in the wood-using industries. Students learn the basic anatomical, physical, chemical, and strength properties of wood as related to the use of wood. Graduates may qualify for employment in a wide range of fields with public agencies or private industry. A minimum of 130 hours of credit, including 8 hours earned in summer field study, is required for graduation.

The summer field study of seven weeks is required for all students, usually between the second and third years.

**First year**

HOURS	FIRST SEMESTER
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
4	CHEM 101—General Chemistry
5	MATH 120—Calculus and Analytic Geometry
4	RHET 105—Composition
3	FOR 101—Introduction to Forestry
18	Total

HOURS	SECOND SEMESTER
4	CHEM 102 or 103—General Chemistry
4	GEOL 101—Principles of Geology
4	PLBIO 100—Plant Biology
3	SPCOM 101—Principles of Effective Speaking
15	Total

**Second year**

HOURS	FIRST SEMESTER
4	BIOL 104—Animal Biology
3	ECON 102—Microeconomic Principles, or ECON 103—Macroeconomic Principles
4	FOR 220—Dendrology
3-5	PHYS 101—General Physics (Mechanics, Heat, and Sound), or PHYS 140—Practical Physics <sup>1</sup>
14-16	Total

HOURS	SECOND SEMESTER
4	SOILS 101—Introduction to Soils
3	Statistics <sup>2</sup>
6	Social sciences, humanities, or other electives <sup>3</sup>
3	Composition II <sup>4</sup>
16	Total

1. PHYS 140 is a substitute for PHYS 101 only for students enrolled in the forest science option.

2. Select from STAT 100—Statistics, AG EC 261—Agricultural Economic Statistics, or ECON 172—Economic Statistics.

3. Social sciences and humanities: A minimum of 9 hours from two departments in the social sciences, including ECON 102 and 103 and 6 hours from the humanities. See the *College of Agriculture Student Handbook* for the approved lists.

4. Students should consult the College of Agriculture for an approved list of Composition II courses.

HOURS	SUMMER FIELD STUDIES
1	FOR 201—Wildland Recreation
2	FOR 211—Forest Ecology
2	FOR 221—Forest Measurements
1	FOR 231—Wood Utilization, I
2	FOR 281—Introduction to Forest Resource Management
8	Total

**Third and fourth years**

The course of study for the third and fourth years follows the option selected and is planned in consultation with the student's faculty adviser.

**Forest Science Option**

HOURS	REQUIRED COURSES
3	FOR 213—Silviculture
3	Choose from: FOR 232—Wood Utilization, II FOR 236—Physical Properties of Wood and Wood-Base Materials FOR 271—Wood Anatomy and Its Applications
4	FOR 351—Forest Resource Economics
4	FOR 381—Forest Resource Management
3-4	PL PA 204—Introductory Plant Pathology, <sup>1</sup> or FOR 120—Introduction to Applied Entomology
3	FOR 316—Advanced Forest Ecology
4	FOR 321—Forest Biometrics
3	FOR 277—Interpretation of Aerial Photography
3-4	C S 101, 103, 105, or 121—Introduction to Computers
130	Additional elective courses must be completed to yield this total for graduation. Included within the total must be 5 credit hours chosen from a list of restricted electives in the <i>College of Agriculture Student Handbook</i> .

1. If PL PA 204 is used to fulfill requirements, students must also enroll in PL PA 312—Diseases of Urban Trees (1 hour).

**Wood Products Industries Option**

HOURS	REQUIRED COURSES
3	FOR 232—Wood Utilization, II
3	FOR 236—Physical Properties of Wood and Wood-Base Materials
3	FOR 271—Wood Anatomy and Identification
3	FOR 273—Adhesives and Laminates
3-4	FOR 340—Introduction to Applied Statistics, or FOR 321—Forest Biometrics
4	FOR 351—Forest Resource Economics
3	FOR 372—Mechanical Properties of Wood and Wood-Base Materials
130	Additional elective courses must be completed to yield this total. At least 20 of the elective hours must be from a group of restricted electives in such areas as accountancy, business administration, chemistry, finance, forestry, and mathematics. Consult the <i>College of Agriculture Student Handbook</i> for the complete list.

**CURRICULUM IN ORNAMENTAL HORTICULTURE****For the Degree of Bachelor of Science in Ornamental Horticulture**

This curriculum prepares the student for a career in the production, marketing, and use of ornamental crops; in teaching, research, or other related professional activity; or in a business providing services or related to ornamental horticulture. Opportunities open to graduates are the production of flowers and ornamental plants in greenhouses and nurseries; plant breeding; flower shop management and floral designing; park and golf course management; positions as sales representatives and technicians with seed and plant suppliers, chemical industries, and horticultural supply firms; employment with state or federal governmental agencies or institutions as teachers, researchers, horticultural advisers, crop inspectors, and consultants; and writing.

A minimum of 130 hours of credit is required for graduation.

**First year**

HOURS	FIRST SEMESTER
2	AGR 100—Contemporary Issues in Food, Agriculture, and Natural Resource Systems
4	PLBIO 100—Plant Biology
3	HORT 100—Introduction to Horticulture
5	MATH 120—Calculus <sup>1</sup>
4	RHET 105—Composition
18	Total
HOURS	SECOND SEMESTER
4	CHEM 101—General Chemistry (see chemistry course placement section, page 49)
3	Course from Group I
3	Course from Group II
3	ENTOM 120—Introduction to Applied Entomology
3	SPCOM 101—Principles of Effective Speaking
16	Total

**Second year**

HOURS	FIRST SEMESTER
3	ACCY 201—Principles of Accounting
4	CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies
3	Courses from Group II
3	ECON 103—Macroeconomic Principles
13	Total
HOURS	SECOND SEMESTER
4	SOILS 101—Introductory Soils
6	Courses from Groups I and II
6	Electives
16	Total

<sup>1</sup> This course may be replaced with MATH 124—Finite Mathematics, or MATH 134—Calculus for Social Scientists.

**Third and fourth years**

The third and fourth years are to be devoted to fulfillment of the group requirements listed below.

HOURS	GROUP I: HUMANITIES AND SOCIAL SCIENCES
15	An approved 6 hours in the humanities and a minimum of 9 hours from two departments in the social sciences (including ECON 102 and ECON 103)

HOURS	GROUP II: PRESCRIBED HORTICULTURE AND SUPPORTING COURSES
3	HORT 100—Introduction to Horticulture
3	HORT 201—Identification and Use of Woody Ornamental Plants, I
3	HORT 202—Identification and Use of Woody Ornamental Plants, II
3	HORT 221—Plant Propagation
3	HORT 226—Bedding Plant Production, Use, and Identification
3-5	PLBIO 260—Introductory Plant Taxonomy, or PLBIO 366—Field Botany
3	PL PA 204—Introductory Plant Pathology
HOURS	GROUP III: HORTICULTURE ELECTIVE COURSES
15 min	Select from the following:
	HORT 190—Home Vegetable Gardening
	HORT 210—Home Grounds Planning and Design
	HORT 211—Home Grounds Development and Construction
	HORT 212—Landscape Contracting
	HORT 220—Plant and Animal Genetics
	HORT 222—Greenhouse Management
	HORT 223—Floricultural Crops Production, I
	HORT 224—Floricultural Crops Production, II
	HORT 227—Indoor Plant Culture, Use, and Identification
	HORT 230—Herbaceous Perennials, Identification, and Use
	HORT 231—Floral Design, I
	HORT 232—Flower Shop Management and Floral Design, II
	HORT 234—Landscape Plants Production
	HORT 236—Turfgrass Management
	HORT 242—Commercial Vegetable Production
	HORT 251—Arbiculture
	HORT 261—Small Fruit and Viticulture Science
	HORT 262—Tree Fruit Science
	HORT 289—Issues Facing Professionals in Agriculture
	HORT 300—Special Problems (maximum of 5 hours)
	HORT 307—International Food Crops
	HORT 320—Horticultural Plant Breeding
	HORT 321—Floricultural Physiology
	HORT 322—Plant Nutrition
	HORT 323—Principles of Plant Breeding
	HORT 336—Perennial Grass Ecosystems
	HORT 345—Growth and Development of Horticultural Crops
	HORT 398—Postharvest Physiology of Horticultural Crops.

**GROUP IV: AREA OF SPECIALIZATION COURSES**

An additional 15 hours consistent with the student's specific career interest is selected in consultation with the faculty adviser from an extensive list of prescribed courses. Included are courses in such areas as accountancy, agricultural economics, agronomy, art, business administration, chemistry, computer science, plant biology, and plant pathology. A complete listing of acceptable courses appears in the *College of Agriculture Student Handbook*.

**CURRICULUM IN HUMAN RESOURCES AND FAMILY STUDIES****For the Degree of Bachelor of Science in Human Resources and Family Studies**

This four-year curriculum in human resources and family studies is designed for students who want to pursue careers in the human resources-oriented professions. The human resources and family studies curriculum combines a liberal arts education with the study of various ecological subsystems as they affect and are affected by individuals and families. The 120 to 126 hours required for graduation include prescribed courses of which at least 28 hours must be in human resources and family studies selected according to the requirements for one of the following options: consumer economics, dietetics, foods and nutrition, foods in business, human development and family studies, marketing of textiles and apparel, and textiles and apparel.

Students preparing for managerial positions in restaurants and other commercial food service units should meet the requirements specified in the curriculum in restaurant management (page 62).

The suggested program for the first two years of the curriculum, shown in detail below, provides a foundation for the various majors and allows some variation for the personal and career objectives of individual students.

## First year

HOURS	FIRST SEMESTER
2	HRFS 100—Contemporary Issues in Human Resources and Family Studies
3	Another human resources and family studies course
3-5	Quantitative Reasoning I
3-4	Natural or social sciences
3-4	RHET 105 or 108—Composition, or SPSCOM 111—Verbal Communications
14-18	Total
HOURS	SECOND SEMESTER
3	A human resources and family studies course
3	Humanities or social sciences
3-4	Natural science
3	SPSCOM 101—Principles of Effective Speaking, or SPSCOM 112—Verbal Communications
12-13	Total

## Second year

HOURS	FIRST SEMESTER
3	A human resources and family studies course
3	Humanities
3-4	Natural and/or social sciences
6	Other curriculum or option requirements
15-16	Total
HOURS	SECOND SEMESTER
3	A human resources and family studies course
3-4	Natural and/or social sciences
6-8	Other curriculum or option requirements
3	Humanities
15-18	Total

## Third and fourth years

The programs for the third and fourth years are largely determined by the major selected, and must be planned in consultation with the student's faculty adviser. The majors are described below. Human resources and family studies courses as prescribed by the major, plus two to three human resources and family studies courses from outside the option area, must total a minimum of 28 hours. Majors are consumer economics, dietetics, foods in business, human development and family studies, foods and nutrition, marketing of textiles and apparel, and textiles and apparel.

## MAJOR IN CONSUMER ECONOMICS

HOURS	COURSES IN HUMAN RESOURCES AND FAMILY STUDIES
3	FACE 170—Consumer Economics
3	FACE 270—Family Financial Management
3	FACE 313—Economics of Consumption
3	FACE 370—Family Economics
3	FACE 371—The Family as a Consuming Unit
3	HDFS 210—Comparative Family Organization
6	Select from: FACE 250—Consumer Economics Internship FACE 314—Consumption in Developing Countries FACE 373—Family Resource Management FACE 378—Problems in Management, Equipment, and Housing FACE 379—Problems in Family, Consumer, and Consumption Economics T A 295—Textiles and Apparel in the International Economy T A 395—Macroenvironment of Textile and Apparel Businesses
6	Two additional human resources and family studies courses to be chosen from outside family and consumer economics area
2	HRFS 100—Contemporary Issues in Human Resources and Family Studies
HOURS	BASIC DISCIPLINE COURSES
6	ECON 102 and 103—Microeconomic and Macroeconomic Principles
3	ECON 301—Intermediate Macroeconomic Theory
3	MATH 124—Finite Mathematics
4	MATH 134—Calculus for Social Scientists
3	POL S 150—American Government
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
4	SOC 100—Introduction to Sociology
9	Natural Sciences electives, including one of the biological sciences (see page 49)
6	Humanities electives (see page 49)
HOURS	OTHER REQUIRED COURSES
6-7	RHET 105 or 108 and SPSCOM 101, or SPSCOM 111 and 112

3	Composition II
3	ADV 281—Introduction to Advertising, or B ADM 337—Promotion Management
3	AG COM 114—Agriculture Communications Media and Methods
3	B ADM 202—Principles of Marketing
3	ECON 172—Economic Statistics, I
120	Open electives to yield this total

## MAJOR IN DIETETICS

(Approved by the American Dietetic Association)

HOURS	COURSES IN HUMAN RESOURCES AND FAMILY STUDIES
3	F N 130—Food Selection and Preparation
3	F N 131—Food Management
3	F N 220—Principles of Nutrition
3	F N 231—Science of Foods
4	F N 240—Quantity Food Production and Service
3	F N 320—Nutritional Aspects of Disease
3	F N 324—Biochemical Aspects of Human Nutrition
3	F N 345—Food Purchasing and Equipment Selection
4	F N 350—Institution and Restaurant Management: Organization and Administration
3	One course selected from: F N 322—Nutrition through the Life Cycle F N 328—Community Nutrition F N 329—Therapeutic Nutrition and Assessment F N 330—The Experimental Study of Foods
9-12	Three additional human resources and family studies courses chosen from outside the foods and nutrition division
2	HRFS 100—Contemporary Issues in Human Resources and Family Studies
HOURS	BASIC DISCIPLINE COURSES
4	CHEM 101—General Chemistry
4	CHEM 102—General Chemistry
3	CHEM 122—Elementary Quantitative Analysis, or CHEM 223—Quantitative Analysis and CHEM 224—Quantitative Analysis Laboratory
3	CHEM 231—Elementary Organic Chemistry
3	CHEM 234—Elementary Organic Chemistry Laboratory
3-8	BIOCH 350—General Biochemistry; or BIOCH 352—General Biochemistry, I, and BIOCH 353—General Biochemistry, II
3	ECON 102—Microeconomic Principles
6	Humanities electives (see page 49)
5	MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
4	PHYSL 103—Introduction to Human Physiology
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
4	SOC 100—Introduction to Sociology
HOURS	OTHER REQUIRED COURSES
3	Choose from: B ADM 210—Management and Organizational Behavior B ADM 247—Introduction to Management
3	B ADM 321—Individual Behavior in Organizations, B ADM 351—Personnel Administration, or PSYCH 245—Industrial Psychology
3	EDPSY 211—Educational Psychology
5	MATH 120—Calculus and Analytical Geometry
6-7	RHET 105 or 108 and SPSCOM 101; or SPSCOM 111 and 112
3	Composition II <sup>1</sup>
3	Statistics <sup>2</sup>
126	Total

1. Consult the *College of Agriculture Student Handbook* for the suggested courses for each major.

2. Select from ECON 171, 172; SOC 185, 385; AG EC 261; AGRON 340; EDPSY 390; STAT 100; MATH 161; PSYCH 233, 234, 235.

## MAJOR IN FOODS AND NUTRITION

HOURS	PRESCRIBED COURSES IN HUMAN RESOURCES AND FAMILY STUDIES
3	F N 130—Food Selection and Preparation
3	F N 131—Food Management
3	F N 220—Principles of Nutrition
3	F N 231—Science of Food
3	F N 324—Biochemical Aspects of Human Nutrition
5	F N 330—The Experimental Study of Foods
3-5	Choose from: F N 240—Quantity Food Production and Service F N 320—Nutritional Aspects of Disease F N 322—Nutrition through the Life Cycle F N 331—Problems in Foods



- 9-12 Three additional human resources and family studies courses chosen from outside the foods and nutrition division
- 2 HRFS 100—Contemporary Issues in Human Resources and Family Studies

**HOURS**

- BASIC DISCIPLINE COURSES**
- 4 CHEM 101—General Chemistry
- 4 CHEM 102—General Chemistry
- 3 CHEM 122—Elementary Quantitative Analysis, or CHEM 223—Quantitative Analysis and CHEM 224—Quantitative Analysis Laboratory
- 3 CHEM 231—Elementary Organic Chemistry
- 2 CHEM 234—Elementary Organic Chemistry Laboratory
- 3-8 BIOCH 350—General Biochemistry; or BIOCH 352—General Biochemistry, I, and BIOCH 353—General Biochemistry, II
- 4 BIOCH 355—Biochemistry Laboratory
- 3 ECON 102—Microeconomic Principles
- 6 Humanities electives (see page 49)
- 5 MATH 120—Calculus and Analytic Geometry
- 5 MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
- 4 PHYSYL 103—Introduction to Human Physiology
- 4 PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
- 3 Social sciences elective (see page 49)
- 3 Statistics<sup>1</sup>
- HOURS**
- 6-7 RHET 105 and 108 and SPCOM 101; or SPCOM 111 and 112
- 3 Composition II<sup>1</sup>
- 126 Open electives to yield this total

1. Select from ECON 171, 172; SOC 185, 385; AGRON 340; AG EC 261; EDPSY 390; STAT 100; MATH 161; PSYCH 233, 234, 235.
2. Consult the *College of Agriculture Student Handbook* for suggested courses for major.

**MAJOR IN FOODS IN BUSINESS**

- HOURS**
- 3 **COURSES IN HUMAN RESOURCES AND FAMILY STUDIES**
- 3 F N 220—Principles of Nutrition
- 3 F N 231—Science of Food
- 5 F N 330—The Experimental Study of Foods
- 9-12 Three additional human resources and family studies courses chosen from outside the foods and nutrition division
- 2 HRFS 100—Contemporary Issues in Human Resources and Family Studies

**HOURS**

- BASIC DISCIPLINE COURSES**
- 4 CHEM 101—General Chemistry
- 4 CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies
- 3 ECON 102—Microeconomic Principles
- 6 Humanities electives (see page 49)
- 5 MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
- 4 PHYSYL 103—Introduction to Human Physiology
- 4 PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
- 3 Social sciences elective (see page 49)

**HOURS**

- OTHER REQUIRED COURSES**
- 3 B ADM 202—Principles of Marketing
- 3 B&T W 250—Principles of Business Writing, or B&T W 253—Business and Administrative Communication
- 3 Choose from:
- B&T W 271—Sales Writing
- B&T W 272—Report Writing
- 4 SPCOM 230—Interpersonal Communications
- 4 F S 260—Raw Materials for Processing, or AG EC 335—Food Marketing
- 6-7 RHET 105 or 108 and SPCOM 101; or SPCOM 111 and 112
- 4 MATH 134—Calculus for Social Scientists, I
- 3 Statistics<sup>1</sup>
- 18 Choose from:
- ACCY 201—Principles of Accounting, I
- ADV 281—Introduction to Advertising
- AGCOM 214—Educational Campaign Planning
- AGCOM 240—Photography in Agriculture
- AGCOM 300—Special Problems in Agricultural Communications
- AGCOM 320—Rural-Urban Communications
- B ADM 200—The Legal Environment of Business
- B ADM 210—Management and Organizational Behavior
- B ADM 212—Principles of Retailing
- B ADM 247—Introduction to Management
- FACE 313—Economics of Consumption
- FACE 370—Family Economics

- FACE 371—The Family as a Consuming Unit
- F N 202—Sensory Evaluation of Foods
- F N 240—Quantity Food Production and Service
- F N 250—Foods and Nutrition Internship
- F N 322—Nutrition Through the Life Cycle
- F N 326—Communications in Foods and Nutrition
- F S 202—Sensory Evaluation of Foods
- F S 314—Food Chemistry and Nutrition, I
- F S 315—Food Chemistry and Nutrition, II
- JOURN 223—Photojournalism
- JOURN 326—Magazine Article Writing
- JOURN 350—Reporting, I
- SPCOM 211—Business and Professional Speaking
- Open electives to yield this total

126

1. Select from ECON 171, 172; SOC 185, 385; AGRON 340; AG EC 261; EDPSY 390; STAT 100; MATH 161; PSYCH 233, 234, 235.

**MAJOR IN HUMAN DEVELOPMENT AND FAMILY STUDIES****HOURS**

- COURSES IN HUMAN RESOURCES AND FAMILY STUDIES**
- 3 F N 120—Contemporary Nutrition
- 3 HDFS 105—Introduction to Human Development
- 3 HDFS 106—Observation and Assessment of Human Development
- 3 HDFS 210—Comparative Family Organization
- 6 Two human resources and family studies courses chosen from outside the human development and family studies division
- 2 HRFS 100—Contemporary Issues in Human Resources and Family Studies

**HOURS**

- OPTION A: CHILD AND ADOLESCENT DEVELOPMENT**
- 4 HDFS 202—Development of Curriculum for Infants and Preschoolers
- 4 HDFS 203—Infancy and Early Development
- 3 HDFS 301—Issues in Socialization and Development
- 3 HDFS 316—Adolescent Development
- 3-4 One course from:
- HDFS 310—Contemporary American Family
- HDFS 315—Critical Transitions in Families
- HDFS 330—The Family in International Settings
- 4 Human development and family studies electives appropriate to a career or professional track

**HOURS**

- OPTION B: ADULT DEVELOPMENT AND AGING**
- 3 HDFS 214—Introduction to Aging
- 3 HDFS 302—Sex Roles
- 3 HDFS 304—Gerontology
- 3 HDFS 315—Critical Transitions in Families
- 3 One course from:
- HDFS 215—Courtship and Marriage
- HDFS 310—Contemporary American Family
- HDFS 330—The Family in International Settings
- 6 Human development and family studies electives appropriate to a career or professional track

**HOURS**

- OPTION C: FAMILY STUDIES**
- 3 HDFS 215—Courtship and Marriage
- 3 HDFS 310—Contemporary American Family
- 3 HDFS 315—Critical Transitions in Families
- 3 HDFS 330—The Family in International Settings, or HDFS 370—Family Conflict Management
- 3-4 One course from:
- HDFS 203—Infancy and Early Development
- HDFS 301—Issues in Socialization and Development
- HDFS 302—Sex Roles
- HDFS 304—Gerontology
- HDFS 316—Adolescent Development
- 6 Human development and family studies electives appropriate to a career or professional track

**HOURS**

- BASIC DISCIPLINE COURSES**
- 4 ANTH 103—Introduction to Cultural Anthropology
- 6-8 Biological sciences: genetics and one other (see page 49)
- 3 ECON 102—Microeconomic Principles
- 6 Humanities electives (see page 49)
- 4 PHYSYL 103—Introduction to Human Physiology
- 3 Physical sciences elective (see page 49)
- 4 PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
- 6 Social sciences electives (see page 49)
- 3 Sociology or rural sociology
- HOURS**
- 6-7 RHET 105 or 108 and SPCOM 101; or SPCOM 111 and 112
- 3 Composition II<sup>1</sup>

3	MATH 124—Finite Math
126	Open electives to yield this total

1. Consult the *College of Agriculture Student Handbook* for suggested courses for each curriculum.

## MAJOR IN MARKETING OF TEXTILES AND APPAREL

HOURS	COURSES IN HUMAN RESOURCES AND FAMILY STUDIES
3	T A 182—Apparel Production Analysis
3	T A 183—Introduction to Textiles
3	T A 184—Introduction to Apparel Design
3	T A 295—Textiles and Apparel in the International Economy
3	T A 296—Administrative Retailing
3	T A 395—Macroeconomic Environment of Textile and Apparel Businesses
9	Choose from:
	T A 250 or 350—Textile and Apparel Business Practicum
	T A 280—Textiles for Interiors
	T A 285—History of Costume
	T A 290—Cross-Cultural Analysis of Dress
	T A 380—Advanced Textiles
	T A 385—History of Textiles
	T A 387—Dress and Human Behavior
	T A 388—Problems in Textiles and Apparel
6	Two additional human resources and family studies courses in areas other than textiles and apparel
2	HRFS 100—Contemporary Issues in Human Resources and Family Studies

HOURS	BASIC DISCIPLINE COURSES
3	ARTHI 115—Art Appreciation, or ARTHI 116—Masterpieces of Art
3	ART&D 185—Design
3	ART&D 186—Design
4	CHEM 101—General Chemistry
4	CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies
6	ECON 102 and 103—Microeconomic and Macroeconomic Principles
3	ECON 313 or FACE 313—Economics of Consumption
3	Humanities elective (see page 49)
4	MATH 134—Calculus for Social Scientists
4-5	MCBIO 100—Introductory Microbiology; and MCBIO 101—Introductory Experimental Microbiology; or PHYS 103—Introduction to Human Physiology
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
3	PSYCH 201—Introduction to Social Psychology
4	SOC 100—Introduction to Sociology
HOURS	OTHER REQUIRED COURSES
6	ACCY 201 and 202—Principles of Accounting, I and II
3	ADV 281—Introduction to Advertising
3	B ADM 202—Principles of Marketing
3	B ADM 212—Retail Management
3	B&T W 250—Principles of Business Writing, or B&T W 253—Business and Administrative Communication
6-7	RHET 105 or 108 and SPCOM 101; or SPCOM 111 and 112
3	ECON 172—Economic Statistics
120	Open electives to yield this total

## MAJOR IN TEXTILES AND APPAREL

HOURS	COURSES IN HUMAN RESOURCES AND FAMILY STUDIES
3	T A 182—Apparel Production Analysis
3	T A 183—Introduction to Textiles
3	T A 184—Introduction to Apparel Design
3	T A 290—Cross-Cultural Analysis of Dress
3	T A 295—Textiles and Apparel in International Economy <sup>1</sup>
15	Selected from:
	T A 250—Textile and Apparel Business Internship
	T A 280—Textiles for Interiors
	T A 285—History of Costume
	T A 296—Administrative Retailing
	T A 350—Textiles and Apparel Business Practicum
	T A 380—Advanced Textiles
	T A 385—History of Textiles
	T A 387—Dress and Human Behavior
	T A 388—Problems in Textiles and Apparel
9-12	Three human resources and family studies courses from areas other than textiles and apparel
2	HRFS 100—Contemporary Issues in Human Resources and Family Studies

HOURS	BASIC DISCIPLINE COURSES
3	Choose from:
	ARTHI 115—Art Appreciation
	ARTHI 116—Masterpieces of Art
	ARTHI 117—Ancient and Medieval Art, and ARTHI 112—Renaissance and Modern Art <sup>2</sup>
3	ART&D 185—Design, or ARTGP 119—Design, I
4	CHEM 101—General Chemistry
4	CHEM 102—General Chemistry, or CHEM 103—General Chemistry: Organic Chemical Studies
6	ECON 102 and 103—Microeconomic and Macroeconomic Principles
3	Humanities elective
4	A course in the biological sciences with laboratory <sup>3</sup>
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
4	SOC 100—Introduction to Sociology
3	PSYCH 201, or SOC 201—Introduction to Social Psychology
120	Open electives to yield this total
HOURS	OTHER REQUIRED COURSES
3	B&T W 250—Principles of Business Writing, or B&T W 253—Business and Administrative Communication
6-7	RHET 105 or 108 and SPCOM 101; or SPCOM 111 and 112
4	MATH 134—Calculus, I
3	Statistics <sup>1</sup>
120	Total required hours

1. B ADM 202 prerequisite waived.
2. If taken, no additional humanities required.
3. Consult the *College of Agriculture Student Handbook* for the suggested courses for each curriculum.

4. Select from ECON 171, 172; SOC 185, 385; PSYCH 233, 234, 235; AGRON 340, MATH 161, STAT 100; AG ECON 261; ED PSY 390.

## CURRICULUM IN RESTAURANT MANAGEMENT

### For the Degree of Bachelor of Science in Restaurant Management

The curriculum in restaurant management prepares students for entry-level management positions in hotels, catering, restaurants, and other administrative food-service units. The program also qualifies the student for sales positions in the food service industry and other hospitality-related businesses. A total of 126 hours of credits is required for graduation.

A minimum of 320 hours of practical restaurant experience is required and must be completed before registering for F N 250. This experience should be completed before the junior year. Students should consult with their academic advisers before completing this experience.

### First year

HOURS	FIRST SEMESTER
2	HRFS 100—Contemporary Issues
3	F N 199B—Introduction to Hospitality <sup>*</sup>
4	MATH 134—Calculus for Social Scientists, I
4	RHET 105 or 108—Composition <sup>1</sup>
4	SOC 100—Introduction to Sociology
17	Total
HOURS	SECOND SEMESTER
3	AG EC 161—Microcomputer Use <sup>*</sup>
3	F N 130—Food Selection and Preparation
3	SPCOM 101—Principles of Effective Speaking <sup>2</sup>
4	CHEM 101—General Chemistry
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
17	Total
	(Practical work experience) <sup>3</sup>

### Second year

HOURS	FIRST SEMESTER
3	F N 131—Food Management
4	CHEM 102 or 103—General Chemistry
3	ECON 102—Microeconomic Principles
3	B ADM 210—Management and Organizational Behavior, or B ADM 247—Introduction to Management
3	Open elective <sup>4</sup>
16	Total

HOURS	SECOND SEMESTER
3	F N 231—Science of Foods
5	MCBIO 100—Introductory Microbiology, and MCBIO 101—Introductory Experimental Microbiology
3	ECON 240—Labor Problems
3	Statistics <sup>4</sup>
3	Humanities elective <sup>5</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	ACCY 201—Principles of Accounting, I
3	ANCI 109—Meat Purchasing and Preparation
3	B ADM 202—Principles of Marketing
3	F N 345—Food Purchasing and Equipment Selection
3	Humanities elective <sup>5</sup>
14	Total
HOURS	SECOND SEMESTER
3	ACCY 202—Principles of Accounting, II
3	HRFS elective
3	B&T W 250—Principles of Business Writing, or B&T W 253—Business and Administrative Communication
4	F N 240—Quantity Food Production and Service
1	F N 249—Applied Food Science Sanitation
14	Total
HOURS	SUMMER SESSION
4	F N 250—F N Internship*

**Fourth year**

HOURS	FIRST SEMESTER
3	B ADM 321—Individual Behavior in Organizations (or equivalent)
3	B ADM 261—Summary of Business Law
3	F N 120—Contemporary Nutrition
5	Open electives <sup>1</sup>
14	Total
HOURS	SECOND SEMESTER
4	F N 350—Institution and Restaurant Management Organization and Administration
4	F N 355—Specialized Quantity Food Production and Management
13	Open elective <sup>1</sup>
13	Total

\*Highly recommended open elective.

1. SPCOM 111 and 112 may be substituted for RHET 105 and SPCOM 101.
2. A minimum of 320 hours of practical restaurant experience is required and must be completed before registering for F N 250. This experience should be completed before the junior year. Consult an adviser for information about completing this experience.
3. Suggested hospitality management electives include the following courses: F N 199D (Hotel Management), F N 202, ECON 103, LEIST 100, 110, 199; VOTEC 387; ADV 281.
4. Select from the following courses: ECON 171, 172; SOC 185, 385; AG EC 261; AGRON 340; STAT 100; EDPSY 390; MATH 161; PSYCH 233, 234, 235.
5. Consult the *College of Agriculture Student Handbook* for approved courses.
6. An internship coordinator must approve the work experience prior to enrolling in the course.
7. Equivalents: B ADM 351 or PSYCH 245.

## PROGRAM IN PREPROFESSIONAL VETERINARY MEDICINE

Most students wishing to complete the preprofessional requirements for veterinary medicine in the College of Agriculture follow Option 1 of the agricultural science major, or the animal sciences major-science option.

Because of the competition for admission, the student should plan a bachelor's degree program that will prepare him or her for a career alternative should admission to the professional program not be obtained. Recently there have been approximately two qualified applicants for each space available in the entering class in veterinary medicine. The mean grade-point average of admitted students was slightly above 4.5 (A = 5.0). Specific information about veterinary medicine, including admission requirements, can be found on page 167.

## COLLEGE OF APPLIED LIFE STUDIES

107 Huff Hall  
1206 South Fourth Street  
Champaign, IL 61820  
(217) 333-2131  
FAX: (217) 333-0404

The College of Applied Life Studies prepares its graduates for scientific and professional careers in fields associated with the promotion of human health and well-being.

Four academic departments offer the bachelor of science, master of science or arts, and doctor of philosophy degrees in the areas of study outlined below. In addition to career opportunities in such fields as health and/or recreation planning and administration, sports medicine, commercial recreation, community health education, speech-language pathology, audiology, corporate physical fitness, and tourism management, certain programs may serve as a first step toward careers in medicine, business, and journalism, among others. An interdisciplinary minor in gerontology is also available. See page 144 for a description.

The Division of Rehabilitation-Education offers a master of science degree for those students seeking advanced study with emphasis in areas of administration, counseling, and general rehabilitation. It also provides students who have physical or sensory impairments and learning disabilities with many support services, including orientation, mobility, and reader services for students who require them, as well as physical therapy, wheelchair sports, and other programs. These programs are designed to help them develop skills necessary as independent and productive members of society. For further information, contact the Division of Rehabilitation-Education, 105 Rehab Center, 1207 S. Oak Street, Champaign, IL 61820, (217) 333-4600.

A distinguished faculty has kept the academic departments and the division at or near the top of all recent national rankings. The college will continue to provide exciting educational opportunities in research, teaching, and service leading to a wide range of career options.

### Departments

The Bachelor of Science degree is offered by four academic departments: Community Health, Kinesiology, Leisure Studies, and Speech and Hearing Science.

- The average class size is twenty-seven students.
- Advising services are available to assist with career information and the development of appropriate courses of study.
- Honors programs are available for outstanding students at the campus level.
- Practicum experiences are required within most departmental curricula. Quality placements are available throughout the United States and around the world in specific degree programs.
- Study abroad programs are available around the world.
- Students have access to the nation's third largest academic library, including an excellent college library, reference service, interlibrary loan system, and term-paper counseling system.

### COMMUNITY HEALTH

**Health Education.** Examines the relationship between community health and educational interventions designed to assist people in adopting and maintaining healthful practices, life styles, and decision-making skills. Prepares the student for roles at all levels of government as well as in health agencies, hospitals, business, and industry.

**Health Planning and Administration.** Studies factors that affect the health status of people and the health care delivery process. Prepares the student for entry-level positions in the planning and administration of health programs in health care facilities, in related government agencies, and with private insurers as well as for positions in health-related businesses.

### KINESIOLOGY

Kinesiology is the study of human movement in a range of physical activities including athletics, communication, dance, exercise, play, rehabilitation, sports, and work. Kinesiology programs focus on the



study of humans as physically active organisms, with special reference to human performance and the development of motor skills together with the impact that physical activity has on individuals throughout their lives.

Undergraduate kinesiology programs prepare students for careers in such diverse fields as teaching, sales, coaching, fitness and wellness, and athletic training. Many students use their undergraduate training to continue their education at graduate or professional schools in physical therapy, medicine, occupational therapy, biobehavioral health, law, biomechanics, exercise physiology, sport and exercise psychology, motor control, and other related disciplines.

The department offers programs that may lead to Illinois state certification to teach physical education in grades kindergarten through twelve, and six through twelve. It offers a teacher education minor in physical education, an athletic training emphasis (NATA approved), and a sport coaching endorsement.

## LEISURE STUDIES

**Program Management.** Prepares students to design, implement, and manage leisure service delivery systems. Includes career opportunities in public recreation systems, commercial and resort agencies, sports management, tourism management, and park and natural resource management.

## SPEECH AND HEARING SCIENCE

The study of speech-language pathology and audiology which prepares students for entrance into professional training at the graduate level. Career opportunities include direct services to individuals with disabilities, as well as positions in business, research laboratories, government agencies, and university settings.

## Requirements

### ADMISSION

College Preparatory Subjects	Semesters of Course Work	
	Required	Recommended
ENGLISH	8	8
ALGEBRA	4	4
GEOMETRY	2	2
TRIGONOMETRY		1
ADVANCED MATH		3
ONE FOREIGN LANGUAGE	4	8
LABORATORY SCIENCE* (NOT GENERAL SCIENCE)	4	
BIOLOGY		2
CHEMISTRY		2
PHYSICS		2
SOCIAL STUDIES	4	4
FLEXIBLE ADDITIONAL COURSES FROM THE AREAS ABOVE	4	
TOTAL COLLEGE PREPARATORY	30	

\*Beginning freshmen will be at a disadvantage if they have not completed at least one year each of high school biology and high school chemistry.

Once high school course work requirements are fulfilled, qualifications for admission are primarily determined by a combination of class rank at the end of the junior year with the highest ACT or SAT test score on file at the time of the admission decision. These two factors are used to predict an applicant's likelihood of academic success, and one may help to offset the other. For example, an applicant may compensate for a low test score with a high class rank.

Transfer applicants must have attained junior standing (60 semester hours of transferable credit) by the desired date of entry. Lower-division transfer students (less than 60 semester hours) must petition for admission. Admission is competitive, based upon cumulative grade-point average. The minimum transfer GPA requirement for the college is 3.5 (A = 5.0).

## Special Programs

### HONORS PROGRAM

Graduation from the College of Applied Life Studies with any honors designation requires that a student must have attained at the University of Illinois at Urbana-Champaign a specific minimum cumulative grade-point average based on a minimum of 55 semester hours in residence.

Bronze Tablet (see pages 39-40)

Dean's List (see page 40)

Highest Honors—4.75 to 5.0

High Honors—4.5 to 4.74

Honors—4.25 to 4.49

## CURRICULA

### CURRICULUM IN COMMUNITY HEALTH

The department offers a bachelor of science degree in community health with areas of concentration in health education and health planning and administration. A minor in gerontology is also available. Students interested in professional health careers will find these programs compatible with those goals.

The purpose of the undergraduate program is to provide students with a broad University general education and a department core of courses that focuses on health behavior and factors that affect the health of communities. The goal is to prepare students for entry-level positions in a variety of settings, both public and private, that utilize health education processes or health information planning.

A total of 128 hours is required for the degree. This includes an 8-credit-hour internship that is completed in the senior year in a setting related to the student's interest.

For further information, contact the Department of Community Health, 121 Huff Hall, 1206 South Fourth Street, Champaign, IL 61820, (217) 333-2307.

### GENERAL EDUCATION REQUIREMENTS

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Some changes in requirements became effective in fall 1991. Additional changes are expected to be implemented over the next several years. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

HOURS	COMMUNICATION ARTS
6-7	RHET 105 or 108 and a speech performance course, or SPCOM 111 and 112
3	Advanced writing <sup>1</sup>
12	<b>HUMANITIES</b> Including one course in philosophy
3	<b>MATHEMATICS</b> College algebra <sup>3</sup> (3)
3	Statistics
4	<b>NATURAL SCIENCES</b> General chemistry
3	Human genetics
3	Introduction to human physiology
3	Microbiology
4	<b>SOCIAL SCIENCES</b> Introduction to cultural anthropology
4	Introduction to economics
4	Introduction to psychology
3	Introduction to sociology
56-57	Total
60	Electives from above to yield this total

1. To be selected with an adviser from an approved campus list.
2. May be satisfied by an appropriate score on the Mathematics Placement Test.

HOURS	PROFESSIONAL CORE REQUIREMENTS
3	CHLTH 100—Contemporary Health
3	CHLTH 101—Introduction to Public Health
0	CHLTH 111—Professional Seminar
3	CHLTH 204—Foundations of Health Behavior
3	CHLTH 210—Health Program Development
3	CHLTH 250—Health Care Systems
3	CHLTH 266—Tomorrow's Environment
2	CHLTH 274—Introduction to Epidemiology
0	CHLTH 280—Orientation to Internship
8	CHLTH 285—Community Health Internship
4	CHLTH 310—Public Health Practice
3	CHLTH 321—Health Data Analysis
36	Total

## AREAS OF CONCENTRATION

An area of concentration will be determined by the sophomore year. Areas of concentration are health education, and health planning and administration. Specific requirements for each option are described in the following sections. Students must take two courses in the area of concentration. If all three courses are completed, one of the three may be applied to the appropriate correlate area in health planning and administration.

HOURS	HEALTH EDUCATION
60	General education requirements
36	Professional core requirements
HOURS	AREA OF CONCENTRATION
3	FN 120—Contemporary Nutrition
3	CHLTH 200—Mental Health
2	CHLTH 225—Sexuality Program Development, or CHLTH 206—Human Sexuality
2	CHLTH 243—Drug Education Planning, or CHLTH 143—Drug Use and Abuse
9	Total
15	Correlate Area #1*
128	Electives to yield this total for graduation
HOURS	HEALTH PLANNING AND ADMINISTRATION
60	General education requirements
36	Professional core requirements
HOURS	AREA OF CONCENTRATION
3	CHLTH 355—Health Services Financing
3	CHLTH 357—Health Planning
3	CHLTH 358—Health Administration
9	Total
18	Correlate Area #2*
128	Electives to yield this total for graduation

\*Social sciences courses from correlate areas may also be used in satisfying general education elective hours.

## CORRELATE AREAS

Each student completes a correlate area that is a planned program of courses taken primarily outside the department, designed to be supportive of the area of concentration. The correlate area may serve as a minor field of study or may prepare the student for advanced study.

HOURS	CORRELATE AREA #1 (HEALTH EDUCATION)
6 min	Select from the departmentally approved list of courses related to communication
3 min	Select from the departmentally approved list of courses related to health care delivery
3 min	Select from the departmentally approved list of courses related to organization and leadership
3 min	Select from the departmentally approved list of courses related to community problems
15	Total
HOURS	CORRELATE AREA #2 (HEALTH PLANNING AND ADMINISTRATION)
6 min	Select from the departmentally approved list of courses related to administration and organization
6 min	Select from the departmentally approved list of courses related to planning
3 min	Select from the departmentally approved list of courses related to accounting and economics
3 min	Select from the departmentally approved list of courses related to marketing and communications
18	Total

## CURRICULUM IN KINESIOLOGY

The kinesiology curriculum leads to a bachelor of science degree that will prepare students for careers in human movement-related fields and/or advanced professional or graduate study. The undergraduate program provides the student with a broad general education, a departmental core integral to the understanding of the diverse aspects of human movement, and a correlate area of courses specific to the student's area of concentration within kinesiology.

Students who desire certification as a teacher or athletic trainer can satisfy the necessary subject matter requirements by appropriate selection of courses within the several categories of the curriculum. Students seeking such certification should ask the undergraduate academic adviser about admission criteria for the NATA-approved program or the teaching program in physical education and about

certification requirements. For teacher certification requirements applicable to all curricula, see pages 43 to 46. The Department of Kinesiology also offers a coaching endorsement to all University of Illinois at Urbana-Champaign students, regardless of degree program.

Further information on careers in kinesiology is available from the Academic Affairs Office, Department of Kinesiology, University of Illinois at Urbana-Champaign, 113 Freer Hall, 906 South Goodwin Avenue, Urbana, IL, 61801, (217) 333-1083.

## GENERAL EDUCATION REQUIREMENTS

The Campus Senate, the faculty General Education Board, and the colleges and departments have increased general education requirements over the last few years. Students are responsible for all requirements in place when they began their college studies. The following is a list of UIUC campus general education requirements and the semester they became effective:

- Composition II—Fall, 1991
- Quantitative Reasoning I—Fall, 1993
- Distribution requirements in humanities and the arts, social and behavioral sciences, and natural sciences and technology—Fall, 1994
- Cultural Studies—Fall, 1995

Students pursuing teacher certification in physical education must complete these requirements with courses chosen from the Council on Teacher Education-approved list. Consult the undergraduate academic adviser for specifics.

HOURS	REQUIREMENTS
9-10	Communication skills (parts a and b)
6-7	a) RHET 105 or 108; and a speech performance course, or SPCOM 111 and 112
3	b) An advanced writing course
12-14	Natural sciences and technology
4	Introduction to human physiology
5	Functional human anatomy
3-5	At least one course in physical sciences from the approved departmental list
3	At least one course in computer skills from the approved departmental list
4-6	At least one course in mathematics from the approved departmental list
9	At least 3 courses in at least two humanities and arts' areas (arts, foreign language, history, literature, non-Western cultures, philosophy)
9	At least 3 courses in at least two behavioral and social sciences' areas (anthropology, economics, non-Western societies, political science, psychology, sociology)
3	Electives <sup>1</sup> , which must be selected from the categories listed above
54	Total minimum hours <sup>4</sup>

1. Students pursuing teacher certification must complete American history, literature, and three additional humanities courses from the council-approved list. One course in humanities and arts or behavioral and social sciences must be from non-Western culture and tradition's CTE list.

2. Students pursuing certification must complete POLS 150/PSYCH 100, 103, or 105; and one additional social science course from the council-approved list. One course in humanities and arts or behavioral and social sciences must be from non-Western culture and tradition's CTE list.

3. Students pursuing certification will need to complete two additional courses in humanities from the council-approved list. One course must be in non-Western cultures, unless this requirement has already been completed as part of the humanities and arts or behavioral and social sciences requirement.

4. Although the 54-hour total is greater than the total achieved by adding the minimum number of hours listed in each separate general education section, the departmental minimum requirement is 54 hours.

## KINESIOLOGY CORE REQUIREMENTS

HOURS	KINESIOLOGY CORE REQUIREMENTS
1	KINES 130—Fundamental Analysis and Performance of Basic Movement Skills
3	KINES 140—Social Scientific Bases of Sport
3	KINES 150—Bioscientific Foundations of Human Movement
3	KINES 240—Social Psychological Aspects of Physical Activity
3	KINES 252—Bioenergetics of Human Movement
3	KINES 255—Biomechanical Analysis of Human Movement
3	KINES 257—Coordination, Control, and Skill
3	KINES 262—Motor Development, Growth, and Form
3	KINES 300—Seminar in Kinesiology
2	Two 1-hour courses from the movement skills series (KINES 131-136)
27	Total

**HOURS ELECTIVE KINESIOLOGY COURSES**

15 One course in each of the three areas (biodynamics; coordination, control and skill; social science of physical activity) at the 200 or 300 level and a minimum of two additional courses at the 200 or 300 level. At least three of the five elective courses (9 or more hours) must be at the 300 level.

**HOURS CORRELATE AREA STUDIES**

18 Courses chosen as a unit, approved by a faculty committee, that work toward career goals or requirements for further education. No more than one-half of these (9 hours) may be in kinesiology.

14 Free electives

128 Total hours for the degree

**REQUIREMENTS FOR TEACHER CERTIFICATION**

In addition to the general education requirements for all kinesiology undergraduates, the teacher certification requirements for students in all curricula, and the kinesiology core requirements on the previous pages, students pursuing certification to teach physical education (K-12 and/or 6-12) must include the following courses in the elective kinesiology, correlate area studies, and free electives areas:

HOURS	REQUIRED "ELECTIVES" AND CORRELATE AREA STUDIES
3	KINES 263—Physical Education Curriculum
3	KINES 267—Adapted Physical Education
3	KINES 273—Instructional Strategies in Physical Education
2-3	KINES 286—Supervised Experience in the Common School
3	KINES 301—Observation and Evaluation in Kinesiology
2	C & 1240—Secondary Education in the United States
3	EP 5201—Foundations of American Education
3	EDPSY 211—Educational Psychology
8	ED PR 238—Educational Practice for Special Fields in Elementary Schools
8	ED PR 242—Educational Practice in Secondary Education
3-4	KINES 131-136 not chosen in the core, with the possible exclusion of one of the following: KINES 132, 134, or 136 (See the undergraduate academic adviser.)

\*Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**CURRICULUM IN LEISURE STUDIES<sup>1</sup>**

This curriculum prepares students to design, manage, and deliver leisure services to a variety of populations through diverse agency settings. A broad general education is emphasized and complemented with a strong core of professional courses. Students may select from two options:

- Program management, which prepares students to manage leisure programs in public, private, tourism, sports, or park and natural resource agencies, and
- Therapeutic recreation<sup>2</sup>, for students who want to design and deliver leisure programs to individuals with disabilities.

All options require 126 credit hours and the completion of the Professional Laboratory Experience Program for graduation. For further information, contact the Department of Leisure Studies, 104 Huff Hall, 1206 S. Fourth Street, Champaign, IL 61820, (217) 333-4410

1. Students are advised that the curriculum is currently being reviewed and revised. Therefore, it is important that the undergraduate academic adviser be contacted for the most current curriculum information.

2. The Department of Leisure Studies is in the process of obtaining University approval to phase out the therapeutic recreation option. Therefore, students interested in this option are advised to consult the academic adviser.

**PROFESSIONAL LABORATORY EXPERIENCE PROGRAM**

All students in the Department of Leisure Studies must satisfactorily complete the Professional Laboratory Experience Program prior to graduation. The program is designed to augment formal classroom instruction with active experiential learning under the guidance of an agency-based supervisor.

The program consists of two courses: LEIST 280—Orientation to Practicum, and LEIST 284—Leisure Studies Practicum. Students register for LEIST 280 after achieving junior standing. During this course, students make final arrangements for completing LEIST 284 the following semester.

The practicum is taken after the student achieves senior standing, satisfactorily completes LEIST 280, and fulfills other option prerequisites. LEIST 284 is taken in agencies that are approved and contracted for this program. Since a limited number of assignments for practicums are available in the campus area, most students look forward to the opportunity of an off-campus assignment.

**GENERAL EDUCATION REQUIREMENTS**

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Some changes in requirements are expected. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers. Further information about career opportunities in leisure studies is available from the director of undergraduate studies in 104 Huff Hall, 1206 South Fourth Street, Champaign, IL 61820, (217) 333-4410

HOURS	VERBAL COMMUNICATION
3	SPCOM 101—Principles of Effective Speaking, or SPCOM 113—Group Discussion and Conference Leadership
HOURS	COMPOSITION I AND II
4	RHET 105—Principles of Composition, or RHET 108—Forms of Composition
3	LEIST 310—Administration of Leisure Services
HOURS	QUANTITATIVE REASONING
4	ACTIVITY COURSES
8-9	NATURAL SCIENCES
	Students in the therapeutic recreation option must select PHYS 103—Introduction to Human Physiology, and CSB 234—Functional Human Anatomy.
HOURS	SOCIAL SCIENCES
15	Students must select PSYCH 100, 103, or 105 and additional social sciences electives
HOURS	HUMANITIES
11	Humanities electives
51-52	Total general education hours
HOURS	PROFESSIONAL CORE REQUIREMENTS
3	LEIST 100—Introduction to Leisure Studies
2	LEIST 110—Foundations for Delivery of Leisure Services
2	LEIST 130—Introduction to Therapeutic Recreation
3	LEIST 210—Theories and Methods of Supervision
0	LEIST 280—Orientation to Practicum
12	LEIST 284—Leisure Studies Practicum
3	LEIST 290—Research in Leisure Studies
3	LEIST 310—Introduction to Administration (Composition II course)
28	Total professional core requirement hours
AREAS OF CONCENTRATION	
HOURS	PROGRAM MANAGEMENT OPTION
51-52	General education requirements
28	Professional core requirements
3	LEIST 316—Leisure and Human Development
3	LEIST 200—Leadership in Leisure Delivery Systems
3	LEIST 215—Recreation Program Development
3	LEIST 332—Program Design and Evaluation in Recreation
3	LEIST 341—Outdoor Recreation Resource Planning
15	Total
12	Correlate Area #1 or #3
19-23	Electives
126	Total hours required for graduation
HOURS	THERAPEUTIC RECREATION OPTION
52	General education requirements
28	Professional core requirements
4	LEIST 230—Clinical Aspects of Therapeutic Recreation
3	LEIST 232—Principles of Therapeutic Recreation
3 min	Choose from:
	LEIST 231—Leisure and the Aging
	LEIST 233—Recreation for the Physically Disabled
	LEIST 234—Recreation for the Mentally Ill and Emotionally Disturbed
	LEIST 235—Recreation for the Developmentally Disabled
1	LEIST 239—Seminar in Therapeutic Recreation
3	LEIST 331—Facilitation Techniques and Leisure Education
17	LEIST 332—Program Design and Evaluation in Recreation
17	Total
9-11	Correlate Area #2
18-23	Electives
126	Total hours required for graduation



**CORRELATE AREAS**

A correlate area is a planned program of courses taken outside the department that is designed to support the student's area of concentration. In some instances, class substitution may be allowed with adviser approval.

HOURS	CORRELATE AREA #1 (PROGRAM MANAGEMENT OPTION)
12	Selected with adviser from a list of courses approved by the department
12	Total
HOURS	CORRELATE AREA #2 (THERAPEUTIC RECREATION OPTION)
3	KINES 255—Biomechanical Analysis of Human Movement
3	HDFS 105—Introduction to Human Development
3	PSYCH 238—Abnormal Psychology
2	(Students are required to demonstrate First Aid Certification prior to internship placement.)
9-11	Total
HOURS	CORRELATE AREA #3 (PROGRAM MANAGEMENT OPTION)
	Select (or choose with the help of an adviser) four from the list below*
3	LEIST 218—Recreation Business
3	LEIST 320—Leisure Services Marketing
6	Additional business courses to be selected with an adviser.
12	Total

\*Select ECON 101 or a statistics course under general education requirements.

**CURRICULUM IN SPEECH AND HEARING SCIENCE<sup>1</sup>**

The curriculum in speech and hearing science is a preprofessional degree program for those individuals who plan to work as speech-language pathologists and audiologists in clinical or school settings. The curriculum is designed to prepare the student to enter professional training at the graduate level in any major graduate program in speech/language pathology or audiology. Students who desire certification for work in the public schools can fulfill certification requirements by meeting entrance requirements for the Graduate College and completing the master of arts degree. The degree requires at least 128 hours, excluding military training.

A student not wishing to pursue teacher certification or a clinical program should refer to the major in speech and hearing science on page 146. For further information, contact the Department of Speech and Hearing Science, 219 Speech and Hearing Building, 901 S. Sixth Street, Champaign, IL 61820, (217) 333-2230.

HOURS	GENERAL EDUCATION REQUIREMENTS
6-7	SPCOM 111 and 112, or RHET 105 and SPCOM 101, or RHET 108 and SPCOM 101
6-8	Biological science
6-8	Physical science
6-8	Social science
0-16	Foreign language (See sciences and letters curriculum requirements for ways in which this requirement may be met.)
3	Health and/or physical education activity
6	Humanities
33-34	Total

**PROFESSIONAL EDUCATION**

For students planning to pursue the school speech and hearing program, the following are recommended:

HOURS	RECOMMENDED
3-6	Exceptional Children
3	Classroom problems in childhood education and special education
3	Mental and educational measurement of exceptional children
9-12	Total
HOURS	REQUIREMENTS FOR THE MAJOR (PSYCHOLOGY AND LINGUISTICS)
5	PSYCH 235—Statistical Thinking in Psychology
3	PSYCH 216—Child Psychology, or EDPSY 236—Child Development
3	PSYCH 250—Psychology of Personality, or PSYCH 238—Abnormal Psychology
3	PSYCH 248—Psychology of Learning and Memory, or PSYCH 224—Cognitive Psychology
3	LING 200—Introduction to Language Science
17	Total

HOURS	REQUIREMENTS FOR THE MAJOR (SPEECH AND HEARING SCIENCE)
3	SPSHS 102—Human Communication: Systems, Processes, and Disorders
3	SPSHS 201—General Phonetics
8	SPSHS 375 and 376—Speech Science, I and II
3	SPSHS 383—Development of Spoken Language
3	SPSHS 378—Hearing Science
6	SPSHS 385 and 388—Speech Pathology, I and II
3	SPSHS 386—Language Disorders in Children
3	SPSHS 389—Appraisal in Speech Pathology
4	SPSHS 390—Introduction to Hearing Disorders and Audiometry
39	SPSHS 393—Aural Habilitation and Rehabilitation
	Total

Recommended Elective Areas. These include psychology, education, physiology, linguistics, psycholinguistics, and special education.

Departmental Distinction. To graduate with distinction, a student must have at least a 4.25 cumulative grade-point average and a 4.5 grade-point average in speech and hearing courses and must complete 4 hours of SPSHS 291 (in addition to the minimum hours required for the degree), and receive faculty recommendations.

Detailed statements of requirements, as well as requirements for graduation with high distinction and highest distinction, are available in the department office.

**TEACHER EDUCATION MINOR IN PHYSICAL EDUCATION**

This program is designed for students enrolled in a teacher education curriculum other than in the Department of Kinesiology. Students who wish to complete this minor must consult with an academic adviser in the Department of Kinesiology.

HOURS	REQUIRED COURSES
1	KINES 130—Fundamental Analysis and Performance of Basic Movement Skills
1	KINES 131—Movement Skills: Fitness
1	KINES 133—Movement Skills: Dance
1	KINES 135—Movement Skills: Field Activities
2	Choose from: KINES 132—Movement Skills: Swimming KINES 134—Movement Skills: Gymnastics KINES 136—Movement Skills: Racquet Activities
3	KINES 140—Social Scientific Bases of Sport
3	KINES 150—Bioscientific Foundations of Human Movement
3	KINES 257—Coordination, Control, and Skill
3	KINES 263—Physical Education Curriculum
3	KINES 267—Adapted Physical Education
3	KINES 273—Instructional Strategies in Physical Education
3	KINES 301—Observation and Evaluation in Kinesiology
3-5	PHYSL 103—Introduction to Human Physiology, or CSB 234—Functional Human Anatomy
30-32	Total

**ATHLETIC TRAINING EMPHASIS**

This program is designed for the student interested in pursuing a career in athletic training, as well as for the student interested in athletic training as an adjunct to his or her career. Applicants must have been admitted to the University of Illinois at Urbana-Champaign and must take the National Athletic Trainer's Association-approved courses, as well as approved University courses. Students must have the cumulative GPA required based on the semester hours of credit earned at the time of selection.

HOURS	REQUIRED COURSES
4	PHYSL 103—Introduction to Human Physiology
5	CSB 234—Functional Human Anatomy
4	PSYCH 100—Introduction to Psychology, or PSYCH 103—Introduction to Experimental Psychology
3	Choose from: PSYCH 238—Abnormal Psychology PSYCH 216—Child Psychology KINES 247—Introduction to Sport Psychology
3	CHLTH 100—Contemporary Health
3	F N 120—Contemporary Nutrition
2	KINES 120—Injuries in Sport
2	KINES 220—Fundamental of Athletic Training
3	KINES 222—Bases for Prescription of Therapeutic Exercises
3	KINES 252—Bioenergetics of Human Movement
3	KINES 255—Biomechanical Analysis of Human Movement

- 5 KINES 288—Supervised Experiences in Athletic Training  
 3 KINES 301—Observation and Evaluation in Kinesiology  
 3 KINES 320—Advanced Assessment of Athletic Injuries  
 2 KINES 321—Therapeutic Modalities in Athletic Training  
 Optional but recommended:  
 4 KINES 322—Neuophysiological Bases of Therapeutic Exercise

## INSTITUTE OF AVIATION

Willard Airport  
 One Willard Road  
 Savoy, IL 61874

The Institute of Aviation is responsible for the promotion and correlation of education and research activities related to aviation at the University. Its director has the advice and assistance of an executive committee. The institute holds Federal Aviation Administration (FAA) Airman Examining (Pilot) Agency Certificate Number 1, which permits it to issue pilot certificates and ratings to its graduates on behalf of the FAA. A professional pilot curriculum includes training from the private pilot level to the airline-transport pilot level.

Typically, new freshmen are accepted for admission only for the fall semester, but a few students are accepted for the spring semester. Transfer to the Institute of Aviation from within the University may be accomplished as space permits.

A graduating institute student may transfer to any degree-granting division of the University to complete requirements for a degree in that division. This may require from four to six additional semesters. A University student outside the Institute of Aviation may elect flight courses with the permission of his or her department and the permission of the Institute of Aviation.

Special fees ranging from \$943 to \$4,364 are charged for a course involving flight training in addition to the estimated costs listed on page 20. These fees are subject to change as operating costs change.

The institute's Aviation Research Laboratory conducts interdisciplinary research in many areas related to flight. The institute manages Willard Airport, located six miles southwest of the Urbana-Champaign campus. The airport also provides the University and the community with excellent air transportation facilities.

### Requirements

#### ADMISSIONS

Applicants must meet general University requirements as well as those specified by the Institute of Aviation. Additional units in physics, mathematics, and the social sciences are recommended.

## CURRICULA

### PROFESSIONAL PILOT CURRICULUM

#### First year

HOURS	FIRST SEMESTER
3	AVI 101—Private Pilot, I
3	ECON 102—Microeconomic Principles or ECON 103—Macroeconomic Principles
4	HIST 111—History of Western Civilization to 1815, or HIST 151—History of the United States to 1877
3	SPCOM 111—Verbal Communication
3	Free elective
16	Total

HOURS	SECOND SEMESTER
3	AVI 120—Private Pilot, II
3	MATH 125—Elementary Linear Algebra with Applications
4	HIST 112—History of Western Civilization, 1815 to the Present, or HIST 152—History of the United States, 1877 to the Present
3	SPCOM 112—Verbal Communication
3	Free elective
16	Total

### Second year

HOURS	FIRST SEMESTER
3	AVI 130—Private-Instrument, I
4	MATH 134—Calculus for Social Scientists, I
3	Humanities elective
6	Free electives
16	Total
HOURS	SECOND SEMESTER
3	AVI 140—Private-Instrument, II
3	CS 105—Introduction to Computers and Their Application to Business and Commerce
4	Humanities elective
6	Free electives
16	Total

#### NOTES:

- HIST 111 and 112, or HIST 151 and 152 should be chosen.
- Humanities electives should be chosen to comply with University general education requirements.
- One additional flight course, AVI210, must be taken to complete requirements for the commercial certificate with instrument rating.

1. Other elective options are available. A student interested in a B.A. or B.S. degree in addition to the aviation curriculum should explore options combining this curriculum with curricula in business administration, agricultural economics, education, journalism, psychology, etc. A brochure listing sample programs is available from the Institute of Aviation upon request.

## COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION

214 David Kinley Hall  
 1407 West Gregory Drive  
 Urbana, IL 61801  
 (217) 333-2740

The purpose of the College of Commerce and Business Administration is to provide an educational experience that will help students develop their potential for leadership and service in business, government, teaching, and research. The undergraduate curricula provide a study of the basic aspects of business and preparation for careers in fields such as accounting, business management, banking, insurance, and marketing. Students should, however, expect to serve apprenticeships in the fields they enter if they aspire to higher positions.

The curricula, leading to the bachelor of science degrees in the various degree programs in business, are based on four years of college work. Students are required to elect courses in other colleges of the University, including mathematics, rhetoric, humanities and the arts, speech, and natural and behavioral sciences, and to secure as liberal an education as possible to avoid the narrowing effects of overspecialization. Through a cooperative arrangement with the College of Liberal Arts and Sciences, students in that college may major in economics or finance.

The College of Commerce and Business Administration offers graduate and professional programs to the student with a bachelor's degree in one of the areas of business and economics, or in a nonbusiness area such as liberal arts, science, or engineering. Detailed information on graduate programs may be obtained from the Graduate College.

### Departments and Curricula

Undergraduate instruction in the College of Commerce and Business Administration is organized under the Departments of Accountancy, Business Administration, Economics, and Finance. Each of these departments offers courses that provide one or more curricula that a student may elect. These curricula lead to bachelor of science degrees in the various fields of study in the college and are designed to encourage each student to develop fully his or her intellectual capacity.

### Requirements

#### ADMISSION

Applicants must meet general University requirements as well as those specified by the College of Commerce and Business Administration.

Students transferring from other colleges will not be excused from the entrance requirements unless they have demonstrated proficiency in the areas in which they are deficient.

### MATHEMATICS PLACEMENT TEST

Students are required to take the Mathematics Placement Test before registering in the college. The results of the test are used to place students in MATH 112 or to exempt them from college algebra and allow them to enroll in MATH 125 or the equivalent, which is required for graduation.

### GRADUATION

Students in the College of Commerce and Business Administration who meet the University's requirements with reference to registration, residence, and fees and who maintain satisfactory scholastic records in the college are awarded degrees appropriate to their curricula.

Each candidate for a degree must have a 3.0 (A = 5.0) grade-point average or above for all courses counted toward graduation, a 3.0 grade-point average or above for all courses taken at this University, a 3.0 grade-point average or above for all courses taken in the major or field of concentration, and a 3.0 grade-point average or above for courses taken in the major or field of concentration at this University.

Each student may select only one major or field of concentration. Students are responsible for meeting the requirements for graduation. Therefore, students should familiarize themselves with the requirements listed in this catalog and other information in the Office of Undergraduate Affairs, 214 David Kinley Hall, and should refer to them each time they plan their programs.

### MATHEMATICS REQUIREMENT

Any one of the sequences described below meets the College of Commerce and Business Administration requirement. A new student need only select which mathematics sequence to enter. Decisions on how far to go in a sequence can be made later as the student gains experience and firms up career objectives.

The most appropriate mathematics sequence depends on the student's background, interest, motivation, and objectives. Background can be evaluated in terms of mathematics courses already completed and the student's score on the Mathematics Placement Test. Interest, motivation, and objectives must be determined by the student. The three sequences open to the student are

- MATH 135. A demanding course requiring a previous analytic geometry course. It should be chosen by students whose interests and objectives require strong mathematics.
- MATH 120 and 130. This sequence is appropriate for students whose background is good but who have not had analytic geometry or who prefer a somewhat less demanding sequence.
- MATH 125 and 134. This sequence provides students with a good background, but because the pace is slower, it may not sufficiently challenge very good or previously well-prepared students.

### RESIDENCY

Students must spend either the first three years, earning not fewer than 90 semester hours, or the last year (two semesters, or the equivalent), earning not fewer than 30 semester hours, in residence on the Urbana-Champaign campus, uninterrupted by any work at another institution.

Transfer students from community or junior colleges must, after attaining junior standing, earn at the University of Illinois or another approved four-year institution at least 60 semester hours acceptable toward their degree.

### Special Programs

### HONORS AT GRADUATION

Honors, designated on diplomas, are awarded to superior students as follows: for graduation with honors, a minimum grade-point average of 4.5 (A = 5.0) in all courses accepted toward the student's degree; for graduation with high honors, a minimum grade-point average of 4.75 in all courses accepted toward the degree; and for graduation with highest honors, a minimum grade-point average of 4.90 in all courses accepted toward the degree. To qualify for graduation honors, transfer students' UIUC and total cumulative grade-point averages must qualify.

### EDMUND J. JAMES SCHOLARS

For information regarding the James Scholar program, see page 32.

### DEAN'S LIST

For information regarding the Dean's List, see page 40.

## CURRICULA

### CORE CURRICULUM

Normally, students must register for not fewer than 12 hours or more than 18 hours in each semester. Students should take mathematics, economics, and accountancy courses in the semesters indicated in the sample schedule of courses. The computer science course must be taken during the first year. A required course that is failed must be repeated the next semester.

A student with fewer than 30 hours of credit is required to have his or her program for the semester approved by an adviser in the college office.

Up to 4 hours of credit in basic physical education may be counted in the 124 hours necessary for graduation. Physical education grades are counted in the graduation grade-point average.

Any course used to fill a specific degree requirement may not be taken on the credit-no credit grade option. Only free electives may be taken on the credit-no credit option.

HOURS	UNIVERSITY COMPOSITION REQUIREMENTS
4	Composition I: RHET 105 or 108—Principles of Composition
3	Composition II: Business and Technical Writing or Advanced Rhetoric <sup>1</sup>
HOURS	GENERAL EDUCATION REQUIREMENTS <sup>1</sup>
18-20	A minimum of six courses is required, as follows:
	Humanities and the Arts (3 courses):*
	Literature and the Arts (1-2 courses)
	Historical and philosophical perspectives (1-2 courses)
	Natural sciences and technology (2 courses):**
	Physical science (0-2 courses)
	Biological science (0-2 courses)
	Behavioral science (1 course)

NOTE: A campus cultural studies general education requirement and a college foreign language requirement also are expected to be in place for students entering in fall 1995 or later.

\*At least one of the courses in the Humanities and the Arts area must be a 200 or higher level course.

\*\*It is strongly recommended that one course be taken in each area.

HOURS	BUSINESS CORE REQUIREMENTS
6	ACCY 201 and 202—Principles of Accounting, I and II
3	B ADM 200—Legal Environment of Business
3	B ADM 202—Principles of Marketing
3	B ADM 210 <sup>1</sup> —Management and Organizational Behavior
3	B ADM 389—Business Policy
3	C S 105—Introduction to Computers and Their Application to Business and Commerce
6	ECON 102 and 103—Microeconomic and Macroeconomic Principles
6	ECON 172 and 173—Economic Statistics, I and II
3	ECON 300—Intermediate Microeconomic Theory
3	FIN 254—Corporate Finance
7	MATH 125 and 134 <sup>1</sup> —Introductory Analysis for Social Scientists
3	SPCOM 101 <sup>1</sup> —Principles of Effective Speaking
49-50 hours	TOTAL BUSINESS CORE REQUIREMENTS
HOURS	MAJOR
15-36	Courses to yield this total
11-35	ELECTIVES
124	MINIMUM TOTAL HOURS FOR THE DEGREE

1. SPCM 111 and 112 may be substituted for RHET 105 or 108 and SPCM 101.

2. For a list of the specific courses that meet this requirement, see the Office of Undergraduate Affairs in 214 David Kinley Hall.

3. This course includes limited voluntary participation as a subject in experiments.

4. MATH 135, or MATH 120 and 130 may be substituted for MATH 125 and 134. (See college mathematics requirement above.)



## SAMPLE SCHEDULE

## First year

HOURS	FIRST SEMESTER
3	ECON 102—Microeconomic Principles
3	MATH 125—Elementary Linear Algebra with Applications
3	C S 105—Introduction to Computing with Application to Business and Commerce
4	Composition I
3	General education
16	Total
HOURS	SECOND SEMESTER
3	ECON 103—Macroeconomic Principles
4	MATH 134—Calculus for Social Scientists, I
3	SPCOM 101—Principles of Effective Speaking
6	General education
16	Total

## Second year

HOURS	FIRST SEMESTER
3	ACCY 201—Principles of Accounting, I
3	ECON 172—Economic Statistics, I
6	General education
3	Elective
15	Total
HOURS	SECOND SEMESTER
3	ACCY 202—Principles of Accounting, II
3	ECON 173—Economic Statistics, II
3	General education
7	Electives
16	Total

## Third year

HOURS	FIRST SEMESTER
3	FIN 254—Corporate Finance
3	ECON 300—Intermediate Microeconomic Theory
3	B ADM 210—Management and Organizational Behavior
3	Major or elective
3	Composition II
15	Total
HOURS	SECOND SEMESTER
3	B ADM 200—The Legal Environment of Business
3	B ADM 202—Principles of Marketing
9	Major and elective
15	Total

## Fourth year

HOURS	FIRST SEMESTER
16	Major and electives
16	Total
HOURS	SECOND SEMESTER
12	Major and electives
3	B ADM 389—Business Policy
15	Total

## CURRICULUM IN ACCOUNTANCY

## For the Degree of Bachelor of Science in Accountancy

In economically advanced societies, accounting plays an increasingly important role. As organizations and societies grow in size and complexity, there is a growing need for relevant and reliable quantitative information about their progress and status. This information is an important aid to business managers, investors, and others in (1) planning decisions regarding the use of resources (financial, physical, and human); (2) controlling decisions regarding actions to accomplish the plans; and (3) evaluating decisions regarding the actual performance. The accountant assists in identifying the information appropriate for a particular decision, participates in the accumulation of this information, and is responsible for reporting and interpreting it. Providing such information is important to those who manage economic activity as well as to those interested in the results. Accountants perform this function in both business and nonbusiness organizations.

Closely allied to accounting are the fields of information systems, auditing, and taxation. Each field requires additional education. Accountants who specialize in information systems are concerned with the design and control of the systems that provide the information. Accountants who specialize in auditing are concerned with verifying

the propriety of the information and may attest to its reliability in reports accompanying those issued by management of their accountability for the use of resources. Accountants who specialize in taxation assist in tax planning, return preparation, and the development of regulations. These accountants are employed inside organizations, by governmental units, and by independent public accounting firms.

Study in accountancy is offered in seven areas: financial accounting, managerial accounting, international accounting, not-for-profit accounting, taxation, information systems, and auditing. Courses are available in each of these areas at both the undergraduate and graduate levels.

Minimum requirements for the bachelor of science degree in accountancy are ACCY 211, 221, 311, and 331; and three additional accountancy courses. One or more acceptable sections of ACCY 199 totaling three or more hours may count as one of these additional courses. Accountancy courses may not be taken on a credit-no credit basis unless the degree requirements have been satisfied. A limit of 33 hours of accountancy courses may be counted toward the bachelor of science degree in accountancy.

## CURRICULUM IN BUSINESS ADMINISTRATION

## For the Degree of Bachelor of Science in Business Administration

The Department of Business Administration offers eight separate undergraduate concentrations: marketing, organizational administration, production, management science, industrial distribution management, management information systems, entrepreneurship, and food and agribusiness management. In addition, a new concentration in international business is in the approval process.

Marketing encompasses those business activities directly related to the process of placing meaningful assortments of goods and services in the hands of the consumer. The marketing student is concerned with the efficient performance of marketing activities and with their effective coordination with the other operations of the firm. Organizational administration is concerned primarily with the effective utilization of human resources within the business organization. Attention is focused on the organization as a social system and the forces that affect this system, such as the behavior of individuals and groups, economic conditions, and technology. Production and operations management is concerned primarily with the efficient utilization of the organization's material resources. Attention is focused on the design and improvement of productive capacity and the coordination of the productive process with other system activities. The industrial distribution management concentration stresses the distribution and logistics function in the industrial sector of the economy, with particular reference to the industrial distributor. Problems in the management of industrial distribution businesses, both as suppliers to and customers of manufacturers and other businesses, receive special attention. The concentration in management information systems permits students to acquire the skills necessary as systems analysts to analyze management's needs for information and identify efficient and effective methods to provide management with such information. Such analysts have played an increasingly important role in business and government over the past twenty years. Entrepreneurship is the study of the emerging and rapidly growing firm. It is intended for students who hope to start and own their own businesses. The concentration in food and agribusiness management emphasizes management in one of the most challenging and important sectors in the U.S. and world economies. Food and agribusiness executives will need to be trained to apply innovative management thinking to deal with technological change, global business ventures, and changing food habits and tastes among consumers.

Requirements for the degree are B ADM 321—Individual Behavior in Organizations, or B ADM 322—Group Processes in the Organization, or B ADM 323—Organizational Design and Environment; B ADM 274—Operations Research; PSYCH 201; and one of the following concentrations:

HOURS	MARKETING
6	A student must take B ADM 320—Marketing Research, and B ADM 344—Buyer Behavior, plus one of the following courses:
3	ADV 383—Advertising Media Planning
3	B ADM 212—Principles of Retailing
3	B ADM 337—Promotion Management
3	B ADM 352—Pricing Policies

- 3 B ADM 360—Marketing to Business and Government  
 3 B ADM 370—International Marketing  
 3 B ADM 380—Advanced Marketing Management

#### HOURS ORGANIZATIONAL ADMINISTRATION

From the following list, a student must take four courses, three of which must be B ADM 321, 322, 323, or 351:

- 3 B ADM 321—Individual Behavior in Organizations  
 3 B ADM 322—Group Processes in the Organization  
 3 B ADM 323—Organizational Design and Environment  
 3 B ADM 351—Personnel Administration  
 3 L R 345—Economics of Human Resources  
 3 POL S 361—Introduction to Public Administration  
 3 POL S 362—Administrative Organization and Policy Development  
 3 PSYCH 355—Industrial Social Psychology  
 3 PSYCH 357—Psychology of Industrial Relations  
 3 SOC 318—Industry and Society  
 3 SOC 359—The Social Psychology of Organization

#### HOURS PRODUCTION

A student must take B ADM 314—Production, and B ADM 315—Management in Manufacturing, plus one of the following courses:

- 3 ACCY 322—Managerial Accounting and Organizational Controls  
 3 B ADM 323—Organizational Design and Environment  
 3 B ADM 351—Personnel Administration  
 3 PSYCH 258—Human Factors in Human-Machine Systems  
 3 PSYCH 356—Human Performance and Engineering Psychology

#### HOURS MANAGEMENT SCIENCE

A student may satisfy this option by taking any three courses approved in advance by the department head. Recommended sequences among the mathematics courses are either MATH 315 and 383, or MATH 361 or 363; and MATH 366. Selected courses include:

- 3 ACCY 322—Managerial Accounting and Organizational Controls  
 3 B ADM 380—Advanced Marketing Management  
 3 MATH 315—Linear Transformations and Matrices  
 3 MATH 361—Introduction to Probability Theory, I  
 4 MATH 363—Introduction to Mathematical Statistics and Probability, I  
 3 MATH 364—Introduction to Mathematical Statistics and Probability, II  
 3 MATH 366—Introduction to Probability Theory, II  
 3 MATH 383—Linear Programming

#### HOURS INDUSTRIAL DISTRIBUTION MANAGEMENT

A student must take the following courses:

- 2-4 B ADM 294A—Practicum in Industrial Distribution Management, or 294B—Practicum in Manufacturing (taken during summer of junior year)<sup>1</sup>  
 2-4 B ADM 295—Senior Research  
 3 B ADM 314—Production, or I E 388—Applications of Operations Research to Industrial Systems  
 3 B ADM 315—Management in Manufacturing  
 3 B ADM 320—Marketing Research  
 3 B ADM 343—Purchasing and Materials Management  
 3 B ADM 360—Marketing to Business and Government  
 3 GE 103—Engineering Graphics and Design  
 3 PHYS 140—Practical Physics: How Things Work—A Course for Nonscientists

In addition, students must take any one of the following courses:

- 3 ACCY 221—Cost Accounting<sup>2</sup>  
 3 B ADM 345—Small Business Consulting  
 4 B ADM 346—Entrepreneurship: Small Business Formation<sup>2</sup>  
 3 B ADM 351—Personnel Administration  
 3 B ADM 352—Pricing Policies<sup>2</sup>  
 3 B ADM 391—Introduction to Management Information Systems  
 3 B ADM 392—Information Organization for Management Information Systems  
 3 B ADM 393—Management Information System Development  
 3 B&T W 271—Persuasive Writing  
 3 FIN 322—Case Studies in Corporate Finance<sup>2</sup>  
 3 FIN 324—Financing of Emerging Businesses  
 3 I E 335—Industrial Quality Control<sup>2</sup>  
 3 PSYCH 245—Industrial Organizational Psychology  
 2 SPCOM 211—Business and Professional Speaking  
 3 SPCOM 230—Interpersonal Communication

1. Although only one summer practicum is required, it is recommended that students participate in two.  
 2. Strongly recommended.

#### HOURS MANAGEMENT INFORMATION SYSTEMS

A student must take the following four courses:

- 3 B ADM 391—Introduction to Management Information Systems  
 3 B ADM 392—Information Organization for Management Information Systems  
 3 B ADM 393—Management Information System Development  
 3 B ADM 394—Management Information and Control Systems

Substitutions may be approved by the head of the Department of Business Administration.

#### HOURS FOOD AND AGRIBUSINESS MANAGEMENT

Students in this concentration pursue a unique food and agribusiness management practicum comprising the following two courses and a summer internship:

- 3 B ADM 338—Strategic Marketing in Food and Agribusiness  
 4 B ADM 339—Practicum in Food and Agribusiness Management  
 Additionally, students must select two courses from the following list:  
 3 AG EC 304—Intermediate Agricultural Finance  
 4 AG EC 335—Economics of Food Marketing  
 3 AG EC 340—Commodity Futures Market and Trading  
 3 AG EC 355—International Agricultural Trade  
 4 AG EC 390—Advanced Agricultural Marketing

#### HOURS ENTREPRENEURSHIP

Students must take the following courses:

- 4 B ADM 345—Small Business Consulting  
 4 B ADM 346—Entrepreneurship: Small Business Formation  
 4 B ADM 347—Legal Strategies for the Entrepreneurial Firm  
 FIN 324—Financing Emerging Businesses

Students wishing to concentrate in production are advised (not required) to fulfill the college mathematics requirement with MATH 120 and 130, or MATH 135.

B ADM 389 should be taken after all requirements in the concentration have been satisfied.

Courses used to fulfill concentration requirements may not be taken on a credit-no credit basis.

Beyond the required courses in composition, general education, the business core and major, at least 16 elective hours must be selected from outside business administration, accountancy, or finance (10 hours for students majoring in industrial distribution management).

## CURRICULUM IN ECONOMICS

### For the Degree of Bachelor of Science in Economics

Economics has been described as the study of how people use limited resources to produce various commodities and to distribute them to members of society for their consumption. Accordingly, the economist is concerned with what is produced, how goods and services are distributed, the organization of industries, the labor supply and its use, international trade, the production and distribution of national income and wealth, government finance, and the use and conservation of land and natural resources.

The student majoring in economics establishes a core of knowledge by taking courses in intermediate theory and statistics. The student may then specialize by selecting course work in an area such as taxation and government finance, international economics, economic history, labor economics, economic development, urban and regional economics, quantitative economics, or government and economic activity.

An economics major is well prepared for a broad range of professional careers. Economics provides excellent training for further study in an M.B.A. or law program or for graduate work in areas such as economics, planning and administration, or policy studies. Career opportunities include management positions in business, industry, and government; teaching and administrative positions in colleges and universities; and research positions in private and public institutions.

Requirements for the degree include ECON 301 and 12 additional hours in economics at the 200- or 300-level, excluding ECON 295, 299,

and 300. Students with strong mathematics backgrounds or interest in further work in economics are advised (but not required) to fulfill the college mathematics requirement with MATH 120 and 130 or MATH 135, and to take additional training in courses such as MATH 242 or 245 and MATH 315.

Courses used to fill major requirements may not be taken on a credit-no credit basis.

## CURRICULUM IN FINANCE

### For the Degree of Bachelor of Science in Finance

The field of finance is primarily concerned with the acquisition and management of funds by business firms, governments, and individuals. A new business, for example, must secure sufficient funds to initiate and maintain operations until the cash flow from sales is great enough to maintain capital requirements. An established business seeks financial advice when considering the purchase of new equipment, the selection of a new plant location, or the expansion of present facilities. Business policy decisions that result in changes in the capital structure of the business are of special importance to finance.

A student who majors in finance may specialize in finance, investment, and financial institutions and markets; insurance and risk management; or real estate and urban land economics.

The study of finance is designed to provide the student with both the theoretical background and the analytical tools required to make effective judgments in finance. Many students select careers in business financial management, commercial and investment banking, government finance, insurance, and real estate.

One of the following concentrations is required for the degree:

HOURS	REQUIRED COURSE
3	FIN 254—Corporate Finance
Then one of the following areas:	
HOURS	BUSINESS FINANCE, INVESTMENTS, AND FINANCIAL INSTITUTIONS AND MARKETS
Choose four from the following:	
3	FIN 300—Financial Markets
3	FIN 301—Financial Intermediaries
3	FIN 321—Advanced Corporate Finance
3	FIN 322—Case Studies in Corporate Finance
3	FIN 323—International Corporate Finance
3	FIN 324—Financing Emerging Businesses
3	FIN 361—Investments
3	FIN 362—Options and Futures Markets
3	FIN 364—International Financial Markets
3	FIN 372—Financial Engineering
Choose one from:	
3	ACCY 211—Intermediate Accounting, I
3	ACCY 221—Cost Accounting
3	BADM 274—Operations Research
3	BADM 320—Marketing Research
3	BADM 337—Promotion Management
2-4	Any ECON course numbered 200 or higher, excluding ECON 300
HOURS	INSURANCE AND RISK MANAGEMENT
3	FIN 260—Introduction to Insurance
Choose four from:	
3	FIN 262—Wealth Management and Life Insurance
3	FIN 341—Property-Liability Insurance
3	FIN 343—Financial Risk Management
3	FIN 345—Corporate Risk Management
3	FIN 360—Employee Benefit Plans
Choose one from:	
3	ACCY 251—Basic Federal Income Tax Accounting
3	ECON 301—Intermediate Macroeconomic Theory
3	ECON 315—The Economics of Poverty and Income Maintenance
2-4	300-level economics course
2-4	FIN 294—Senior Research
2-4	FIN 295—Senior Research
4	MATH 371—Actuarial Theory, I
4	MATH 372—Actuarial Theory, II
HOURS	REAL ESTATE AND URBAN ECONOMICS
3	FIN 264—Fundamentals of Real Estate
Choose four from:	
3	FIN 382—Urban Real Estate Valuation
3	FIN 384—Real Estate Investment
3	FIN 386—Urban Economics
3	FIN 388—Real Estate Financial Markets
3	FIN 390—Legal Environment of Real Estate

Choose one from:

- 3 ACCY 251—Basic Federal Income Tax Accounting
- 3 AG EC 312—Rural Real Estate Appraisal
- 3 CE 318—Construction Cost Analyses and Estimates
- 3 ECON 360—Regional Economics
- 3 FIN 341—Property-Liability Insurance
- 3 GEOG 366—Location of Industry and Other Economic Activities
- 3 GEOG 383—Urban Geography
- 3 Urban and Regional Planning

Courses used to fill major requirements may not be taken on the credit-no credit option.

1. FIN 264 will satisfy the education requirements for the salesperson's license examination. Any two of the following courses will satisfy the additional education requirements for the broker's license examination (for students who have had an active salesperson's license for one year): FIN 382, 384, 386, 388, 390, AG EC 312.
2. Courses in urban and regional planning may be taken with the consent of the Department of Finance and the Department of Urban and Regional Planning.

## TEACHER EDUCATION MINOR IN ECONOMICS

For a teacher education minor in economics, a student must complete ECON 102 and 103 (or ECON 101); ECON 300, and 301; ECON 172 or equivalent work in statistics (ECON 173 is recommended but not required), and an additional 12 hours in economics with at least one course in each of the following areas for a total of 27 hours or more (or 25 hours or more if ECON 101 is taken):

HOURS	HISTORY, HISTORY OF THOUGHT, COMPARATIVE SYSTEMS
3	ECON 236—American Economic History
3	ECON 238—European Economic History
3	ECON 255—Comparative Economic Systems
3	ECON 306—Macroeconomic Policy
3	ECON 357—The Russian Economy
3	ECON 358—The Economy of China
3	ECON 359—The Israeli Economy
HOURS	PUBLIC SECTOR, LABOR
3	ECON 214—Introduction to Public Finance
3	ECON 240—Labor Problems
3	ECON 245—Women in the Labor Market
3	ECON 303—Macroeconomic Policy
3	ECON 313—Economics of Consumption
3	ECON 314—Public Sector Economics
3	ECON 315—The Economics of Poverty and Income Maintenance
3	ECON 341—Economics of Labor Markets
3	ECON 343—Unions, Bargaining, and Public Policy
3	ECON 345—Economics of Human Resources
3	ECON 346—Family Economics
3	ECON 360—Regional Economics
3	ECON 361—Urban Economics
3	ECON 380—Industrial Competition and Monopoly
3	ECON 381—Government Regulation of Economic Activity
3	ECON 383—Health Economics
3	ECON 388—Law and Economics
HOURS	INTERNATIONAL DEVELOPMENT
3	ECON 228—Survey of International Economics
3	ECON 328—International Economics
3	ECON 329—Contemporary Issues in the International Economy
3	ECON 350—The Developing Economies
3	ECON 351—The Development of the Japanese Economy
3	ECON 352—Economic Development in Latin America
3	ECON 353—Economic Development in India and Southeast Asia
3	ECON 354—Economic Development of Tropical Africa

## COLLEGE OF COMMUNICATIONS

119 Gregory Hall  
810 South Wright Street  
Urbana, IL 61801  
(217) 333-2350

For students with two years of college and a commitment to a career in communications, the College of Communications offers an additional two years of education leading to bachelor of science degrees in advertising, in journalism, and in media studies.



Through its professional programs, the college strives to give students in advertising and journalism broad career competence in their chosen fields of communications, while ensuring that they acquire solid backgrounds in the social sciences and humanities. Its premise is that students need an understanding of people and the world they live in if they are to communicate effectively through print and electronic media.

Through its non-professional media studies program, the college offers students the opportunity to study, analyze, and critique modern communications media, again with a firm foundation in the social sciences and humanities.

The college has modern equipment and facilities for teaching future communications practitioners—reporting, editing, graphics, and photojournalism laboratories, in addition to editing studios for radio and television production and a well-equipped studio for broadcast news instruction. The Communications Library is generally recognized as one of the best in the nation. The departments of advertising and journalism maintain job placement services for their students.

The college is also the supervising administrative unit for the University Broadcasting Division (WILL-AM, -FM, and -TV) and the Institute of Communications Research, where the media studies program is administered.

Instruction in journalism at the University was begun in 1902 as part of the course offering in rhetoric and was organized as a division of the Department of English in 1916. The School of Journalism was established in 1927 as a separate unit. In 1950, it became the School of Journalism and Communications with divisions of journalism, advertising, and radio, the last of which later added instruction in television. In 1957 the school was elevated to college status, and two years later the college's three divisions were redesignated as departments. The present name—College of Communications—was adopted in 1968.

## Departments and Curricula

Through its Departments of Advertising and Journalism, the college, which has been accredited by the American Council on Education for Journalism and Mass Communication, offers professional education in three sequences—advertising, news-editorial journalism, and broadcast journalism. A bachelor of science degree is also offered in media studies through the Institute of Communications Research.

The Department of Advertising supervises work in the advertising curriculum for students expecting to enter advertising agencies or the advertising departments of companies, communications media, industrial organizations, or retail stores. The department aims to educate students to become analytical, flexible, and creative professionals who are able to deal with current and future advertising problems.

The Department of Journalism seeks to prepare students for varied and long-term careers in print and electronic journalism. The primary professional aim of the news-editorial and broadcast sequences is to train students as public affairs reporters by providing them with the skills, knowledge, and understanding required for success as journalists. The department aims to prepare broadly educated professionals who will eventually assume decision-making and leadership roles.

The Institute of Communications Research, through the media studies curriculum, gives students concentrated formal academic study in the development of the communications media and their underlying technologies.

The Departments of Advertising and Journalism offer graduate programs leading to master of science degrees in advertising and in journalism. The college offers an interdisciplinary program leading to the doctor of philosophy in communications under the direction of the Institute of Communications Research.

## Requirements

### ADMISSION

For admission to the College of Communications, a student must complete 60 semester hours of acceptable undergraduate college work and present a grade-point average of at least 4.0 (A = 5.0) and evidence of interest in the practice and/or study of communications. The competitive grade-point average in recent years has been higher. Applicants with less than a 4.0 grade-point average may be considered if they demonstrate strong motivation and aptitude, provided that spaces are available.

Since they must have junior standing to be eligible to enter the College of Communications, students at the University of Illinois at

Urbana-Champaign are advised to register as freshmen and sophomores in the prejournalism curriculum of the College of Liberal Arts and Sciences and to follow a broad general education program. Students at other institutions should follow similar programs.

Although there is no formal preadvertising or prejournalism program, a strongly recommended program for each college curriculum for the first two years is available in the college office. These programs include basic courses in economics, English, history, philosophy, sociology, and anthropology, as well as courses satisfying the University's general education requirements. Students who do not have a reasonable degree of typing ability should acquire this skill before entering the college, because it is desirable in all curricula. A basic knowledge of computer skills is also useful.

Students at the University of Illinois at Urbana-Champaign should make arrangements at the college office to apply for an intra-college transfer early in the second semester of their sophomore year. Junior standing is necessary for students to take most courses offered by the College of Communications.

Students completing their freshman and sophomore studies at institutions other than the University of Illinois are strongly advised to defer courses in advertising, journalism, and communications until enrolled in the College of Communications. Students must take all of their required communications courses in the College of Communications. They may be permitted to transfer up to 9 hours of elective communications courses taken elsewhere, provided that they take an equivalent number of additional hours in advanced social studies, arts, and sciences beyond the 20 semester hours required for graduation from the college.

The college does not recommend that students with more than 90 hours enter any of its undergraduate programs. The programs are designed for completion within four semesters. In certain cases, it is possible to complete the curriculum requirements in three semesters if prerequisites in sequential courses can be met. The college does not accept a student who has already received a bachelor's degree as a candidate for a second bachelor's degree. Instead, it recommends that such a student enter one of its graduate programs.

### GRADUATION

The college offers programs of study leading to bachelor of science degrees in advertising, journalism, and in media studies. To meet the degree requirements, all students must satisfy general University requirements as to registration, residence, scholarship, and fees. They must complete the rhetoric requirements and approved sequences in the humanities, social sciences, and natural sciences as listed under University general education requirements on page 38. All students must also fulfill the following general requirements of the College of Communications:

- Complete a total of 124 semester hours of course credit. Basic physical education activity courses and basic courses in military, naval, or air force science may not be counted toward this total although such credits may be counted toward meeting the admission requirement of 60 semester hours. No more than a total of 12 hours earned in undergraduate open seminars (199 courses), in independent study courses outside the college, and in other experimental courses may be counted toward the degrees offered by the college. A student in the college may enroll in one such course for a maximum of 4 hours of credit in any semester with the consent of the head of the student's major department. The same policy is applied to credit for internships in fields other than communications with the additional requirement that such courses must also be approved by the dean of the college. While the college encourages its students to hold internships in the communications field, particularly in the summer between the junior and senior years, it does not allow academic credit toward the degree for such experience alone. Credit granted by other institutions for internships is not accepted.
- Complete not less than 30 hours but not more than 36 hours in courses offered by the college in advertising, communications, and journalism. Those undergraduate courses cross-listed with advertising or journalism courses are considered college course offerings. Undergraduate communications courses cross-listed only with departments outside the college are not counted as college offerings, except COMM 322.
- Complete not less than 20 hours in advanced (200- and 300-level) courses at the University of Illinois at Urbana-Champaign in the social studies, arts, and sciences approved by the faculty. The

human resources and family studies minor may be substituted for the requirement of 20 hours in advanced social studies, arts, and sciences by advertising and journalism majors.

- Complete the specific requirements of one of the curricula offered by the college, as listed below.
- Complete 90 hours of credit outside the college, of which 65 hours must be taken in the liberal arts and sciences.
- Earn a grade-point average of 3.0 ( $A = 5.0$ ) in all courses presented for the degree. In addition, students must earn a 3.0 cumulative grade-point average for all courses taken while registered in the college.

## GENERAL EDUCATION

To be graduated from the College of Communications, students must satisfy the University's general education requirements, which include completion of the two-course composition requirement and a minimum of 6 hours each in the humanities, social sciences, and natural sciences. The sequences and courses below have been approved by the college. A student may not use sequences from any one department to satisfy the requirement in more than one of these areas.

Any substitution of sequences or courses must be approved by the dean of the college. However, any sequence or combination of courses approved to fulfill these requirements by another college at the Urbana-Champaign campus may be accepted by the College of Communications with the exceptions stated below.

The college will waive the requirements in any of the following three areas if the student's performance in the College-Level Examination Program (CLEP) earned such a waiver in the student's previous college at UIUC. However, only CLEP hours earned in the social sciences and humanities, up to a maximum of 12 hours, will be allowed toward the graduation requirement of 124 hours. CLEP credit hours earned in the natural sciences (including mathematics) and rhetoric will not be allowed.

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Some changes in requirements took effect in fall 1991. Additional changes are expected to be implemented over the next several years. These changes may, for example, affect which courses satisfy the humanities, social sciences, and natural sciences requirements. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

## HUMANITIES

Any of the following sequences or combinations from the same department:

- ARTH 101, 110, 111, 112, 115, 116;
- CLCIV 114, 115, 116, 120, 131, 132;
- C LIT 141, 142;
- ENGL 101, 102, 103, 104, 106, 107, 115, 116, 118, 119, 120, 198;
- HIST 131, 132, 181, 182;
- HUMAN 141, 142;
- MUSIC 130, 131, 133, 135;
- PHIL 101, 102, 105, 110.

## SOCIAL SCIENCES

Any of the following sequences, or combinations from the same department:

- ANTH 102, 103;
- ECON 101, 214, 228, 236, 237, 238, 240, 245, 250, 255;
- GEOG 101, 104, 105;
- HIST 111, 112, 151, 152, 170, 173, 174, 175, 176;
- POL S 100, 150;
- PSYCH 100 or 105, 201, 216, 238, 245, 250;
- SOC 100, 131.

## NATURAL SCIENCES

Any of the following sequences, students must select at least 6 hours of courses from either the life sciences, physical sciences, or mathematics. Combinations of life science courses with physical science or mathematics are not accepted.

Any of the following sequences in the life sciences:

- BIO 100 or 101, and 102 or 103, or a combination of 6 hours from the following list:
- ANTH 109, 143;
- BIOI 100 or 101, 104, 105, 106, 107 or 108;
- PL BIO 100, 102;
- EE 105;
- ENTOM 105;
- PHYSI 103;
- PSYCH 103, 210, 217, 230;
- Or any of the following sequences in the physical sciences:
- ASTR 101 and 102, 110, 113, 140 and 100;
- GEOG 102, 103, 107-108;

GEOL 101 and 102; or any 6 hours of chemistry, except CHEM 101-102; or 6 hours of physics;

Or any 6 hours in mathematics, exclusive of MATH 101, 102, 104, 111, 112, 114, 116, and 161.

Statistics courses and computer science courses may not be used to satisfy the natural science requirement. It is recommended that students in the advertising curriculum use mathematics to satisfy the natural science requirement; those in the journalism and media studies curricula use either life or physical sciences to satisfy this requirement.

## Special Programs

### EDMUND J. JAMES SCHOLARS

The College of Communications does not have a college honors program. However, a student who transfers into the College of Communications from another college on the Urbana-Champaign campus and is a James Scholar in the previous college at the time of transfer will continue to be listed as a James Scholar in the College of Communications through the end of the first spring semester in the college. If the student has a cumulative grade-point average of 4.5 or above ( $A = 5.0$ ) at that time, he or she will be certified as a James Scholar for the next academic year when his or her records will be reviewed for certification. Any student whose cumulative average falls below 4.5 will not be certified and will be removed from the James Scholars listing. Designation as a James Scholar is available only to a student who was previously so designated.

### DEAN'S LIST

To be eligible for Dean's List recognition for any semester, students must rank in the top 20 percent of their respective classes and must successfully complete 14 academic hours, of which at least 12 hours must be traditionally graded hours (excluding course work graded pass-fail, credit-no credit, satisfactory-unsatisfactory, excused, or deferred) and excluding grades and hours in basic physical education courses and religious foundation courses.

### HONORS AT GRADUATION

For graduation with honors, a student must have been named to the Dean's List of the College of Communications for at least three semesters, must rank in the upper 20 percent of the student's graduation class, and must have earned a minimum grade-point average of 4.5 or above in all courses taken after admission to the College of Communications. For graduation with high honors, a student must have been named to the Dean's List of the College of Communications for at least three semesters, must rank in the upper 10 percent of the student's graduation class, and must have earned a minimum grade-point average of 4.7 in all courses taken after admission to the College of Communications. For graduation with highest honors, a student must have been named to the Dean's List of the College of Communications for at least three semesters, must rank in the upper 5 percent of the student's graduation class, and must have earned a minimum grade-point average of 4.8 or above in all courses taken after admission to the College of Communications.

### KAPPA TAU ALPHA

Each year, scholastically high-ranking undergraduate and graduate students in the College of Communications are considered for membership in Kappa Tau Alpha, national honorary society in journalism and communications. The society was founded to recognize and promote scholarship in advertising, journalism, broadcasting, and media studies.

## CURRICULA

### CURRICULUM IN ADVERTISING

#### For the Degree of Bachelor of Science in Advertising

Department of Advertising  
103 Gregory Hall  
810 South Wright Street  
Urbana, IL 61801  
(217) 333-1602

To be graduated from the advertising curriculum, a student must meet the general University and college requirements for the degree listed on page 74 and must complete the following courses:

HOURS	REQUIRED COURSES
3	ADV 281—Introduction to Advertising
3	ADV 381—Advertising Research Methods
3	ADV 382—Advertising Creative Strategy and Tactics
3	ADV 383—Advertising Media Strategy and Tactics
3	ADV 391—Advertising Management: Planning
3	ADV 392—Advertising Management: Strategy and Tactics
3	ADV 393—Advertising in Contemporary Society
6	A minimum of two courses from this list: JOURN 217—History of Communications JOURN 218—Communications and Public Opinion JOURN 220—Communications and Popular Culture JOURN 231—Mass Communications in a Democratic Society JOURN 241—Law and Communications JOURN 251—Social Aspects of Mass Communications
3	Advertising, journalism, or communications electives (no more than 9 hours)
30	Total (no more than 36)
3-6	A specified course or courses in statistical methods <sup>1</sup>
6	ECON 102 and 103—Micro- and Macroeconomic Principles
3	B ADM 202—Principles of Marketing <sup>2</sup>
7-8	Two of the following: PSYCH 100—Introduction to Psychology SOC 100—Introduction to Sociology ANTH 103—Introduction to Cultural Anthropology

1. Currently acceptable courses: EDPY 390; ECON 172, 173; PSYCH 235; STAT 100; SOC 185; MATH 161; and AGRON 340.

2. These courses may be credited toward the college requirement of 20 hours of advanced social studies, arts, and sciences.

### CURRICULUM IN JOURNALISM

#### For the Degree of Bachelor of Science in Journalism

Department of Journalism  
120A Gregory Hall  
810 South Wright Street  
Urbana, IL 61801  
(217) 333-0709

#### NEWS-EDITORIAL SEQUENCE

To be graduated from the news-editorial sequence of the Department of Journalism, a student must meet the general University and college requirements for the degree listed on page 74 and must complete the following courses:

HOURS	REQUIRED COURSES
3	JOURN 150—Introduction to Journalism
4	JOURN 350—Reporting, I
4	JOURN 360—Graphic Arts
4	JOURN 370—News Editing
4	JOURN 380—Reporting, II
3	JOURN 241—Law and Communications
3	A minimum of one course from the following: JOURN 217—History of Communications JOURN 218—Communications and Public Opinion JOURN 220—Communications and Popular Culture JOURN 231—Mass Communications in a Democratic Society JOURN 251—Social Aspects of Mass Communications <sup>1</sup>
8	Advertising, journalism, or communications electives (no more than 11 hours)
30	Total (no more than 36)
36	At least 6 hours of credit in each of the following areas:

economics, English or American literature, history, philosophy, political science, and sociology or anthropology<sup>1</sup>

1. Courses taken in these fields to fulfill the college requirement of 20 hours of advanced social studies, arts, and sciences may be used toward fulfilling the departmental requirements, as may lower-division courses or sequences in these fields taken any time during the student's four years. Undergraduate seminar courses (199) and hours earned through CLEP may not be used to fulfill these departmental requirements.

#### BROADCAST JOURNALISM SEQUENCE

To be graduated from the broadcast journalism sequence of the Department of Journalism, a student must meet the general University and college requirements for a degree listed on page 74 and must complete the following courses:

HOURS	REQUIRED COURSES
3	JOURN 150—Introduction to Journalism
4	JOURN 350—Reporting, I
4	JOURN 362—Broadcast News Production
4	JOURN 372—Broadcast News Writing and Gathering
4	JOURN 382—Broadcast News Editing
3	JOURN 241—Law and Communications
3	A minimum of one course from the following: JOURN 217—History of Communications JOURN 218—Communications and Public Opinion JOURN 220—Communications and Popular Culture JOURN 231—Mass Communications in a Democratic Society JOURN 251—Social Aspects of Mass Communications <sup>1</sup>
8	Advertising, journalism, or communications electives (no more than 11 hours)
30	Total (no more than 36)
36	At least 6 hours of credit in each of six of the following areas: economics, English or American literature, history, natural science, philosophy, political science, and sociology or anthropology <sup>1</sup> At least four courses in each of two department-approved areas of specialization <sup>1</sup>

1. Courses taken in these areas to fulfill the college requirement of 20 hours of advanced social studies, arts, and sciences may be used toward fulfilling these departmental requirements, as may lower-division courses or sequences in these areas taken any time during the student's four years. Natural science may be either life science or physical science, but not mathematics, to satisfy this departmental requirement. Besides the above seven areas, specializations may include other areas, such as agricultural economics, labor relations, urban planning, finance, and speech communication. Undergraduate seminar courses (199), independent study courses, and hours earned through CLEP may not be used to fulfill any of these departmental requirements.

### CURRICULUM IN MEDIA STUDIES

#### For the Degree of Bachelor of Science in Media Studies

Media Studies Program  
222B Armory  
505 East Armory Avenue  
Champaign, IL 61820  
(217) 333-1549

To be graduated from the media studies curriculum, a student must meet the general University and college requirements for the degree listed on page 74 and must complete the following courses:

HOURS	REQUIRED COURSES
3	COMM 101—Social and Cultural Foundations of Mass Media <sup>1</sup>
3	COMM 217—History of Communications
3	COMM 220—Communications and Popular Culture
3	COMM 231—Mass Communications in a Democratic Society
3	COMM 251—Social Aspects of Mass Communications
3	COMM 264—Economic Structure of Communications
3	COMM 310—Media Ethics
12	College of Communications electives from the list below At least four elective courses totaling at least 12 hours up to a maximum of six courses totaling no more than 18 hours must be chosen from the following list: ADV 281—Introduction to Advertising ADV 309—Public Relations COMM 218—Communications and Public Opinion COMM 241—Law and Communications COMM 261—American Broadcasting and Telecommunications



COMM 310—Media Ethics  
 COMM 322—Politics and the Media  
 COMM 366—Film as Business  
 JOURN 223—Photo-journalism  
 JOURN 350—Reporting, I  
 COMM 361—Telecommunications Programming  
 COMM 362—Telecommunications Management  
 COMM 368—Legal and Policy Issues in Telecommunications

**Total**

30 At least 20 hours of advanced (200- and 300-level) credits in  
 20 one or two areas outside of the College of Communications,  
 such as economics, management, political science, sociology,  
 psychology, literature, philosophy, physics, or engineering<sup>2</sup>

1. Strongly recommended, but hours do not count toward the 30 hours for the major.
2. Fulfills the college requirement of 20 hours of advanced level social studies, arts, and sciences.

## MINORS

A student in the College of Communications is not required to complete a minor. A student in advertising or journalism with a special interest in human resources and family studies may elect to follow a special minor of at least 20 hours as listed below. The minor may be substituted for the college requirement of 20 hours of advanced social studies, arts, and sciences.

For students not enrolled in the College of Communications, the college offers only one approved special minor, a minor in the teaching of journalism for students in teacher education. Other students are cautioned against attempting to follow a minor or cognate in communications even if approved by their major departments. Enrollment in many courses offered by the college is restricted to majors in one of the college's curricula. In all college courses, enrollment priority is given to students enrolled in the College of Communications.

### MINOR IN HUMAN RESOURCES AND FAMILY STUDIES

For a minor in human resources and family studies (home economics), the student must complete a minimum of 20 hours in courses offered by the School of Human Resources and Family Studies. The 20 hours completed in this area may be substituted for the 20 hours of advanced social studies, arts, and sciences required by the college for graduation. However, all students in the news-editorial and broadcast journalism sequences must satisfy the departmental requirements of at least 6 hours each in history, political science, philosophy, economics, sociology or anthropology, and English or American literature. These courses may be taken at the lower- or upper-division level.

It is recommended that students select a concentration of courses from one of five areas of human resources and family studies (family and consumer economics, foods and nutrition, human development and family ecology, interior design, or textiles and apparel) and select electives in other areas to total 20 hours.

### TEACHER EDUCATION MINOR IN JOURNALISM

This minor is specifically for students in teacher education programs. It requires a minimum of 18 hours in communications courses. In addition to three required courses with a total of 11 hours of credit, a minimum of 7 additional hours must be chosen from a selected group of electives. Students are also required to take at least 7 hours of rhetoric, for a total of 25 hours.

HOURS	REQUIRED COURSES
3-4	Typography or graphic arts
4	News writing
4	News editing
6 or 7	Electives in advertising, journalism, and communications
4	RHET 105 or 108
3	One of the following: ENGL 381, RHET 133, or RHET 143
25	Total

HOURS	ELECTIVES
3	Introduction to advertising
4	Advanced reporting
3	Photojournalism
3	Magazine article writing
3	American broadcasting and telecommunications

Others may be chosen in consultation with the adviser.

## COLLEGE OF EDUCATION

110 Education Building  
 1310 South Sixth Street  
 Champaign, IL 61820  
 (217) 333-2800

The College of Education at the University of Illinois at Urbana-Champaign offers undergraduate degree programs in three of the six departments within the college. The departments that offer undergraduate degree programs, and the programs offered by each, are described below.

The Department of Curriculum and Instruction offers degree programs in elementary education, early childhood education, and secondary education. Students who satisfactorily complete the degree program in elementary education are eligible for the University's recommendation for Illinois certification in grades kindergarten through nine. The early childhood education degree program prepares students for recommendation for early childhood Illinois certification (birth through grade three). The secondary education program offers degrees in the following teaching specialties: English, mathematics, social studies, general science, physical sciences, and life sciences. Students who satisfactorily complete a degree program in secondary education are eligible for the University's recommendation for Illinois certification in grades six through twelve. Only students who have earned at least 60 semester hours are considered for admission to secondary education curricula in the College of Education.

The Department of Special Education offers an undergraduate degree program that prepares students to teach persons with moderate to severe disabilities. Students who satisfactorily complete the degree program in special education are eligible for the University's recommendation for Illinois certification in grades kindergarten through twelve with an endorsement in trainable mentally handicapped. This program is able to accommodate only a small number of juniors and seniors. Applicants to this program must complete special admission procedures.

The Department of Vocational and Technical Education offers degree programs in occupational/practical arts education and business education. At the time of publication, the business education program was proposed for elimination. Students interested in the occupational/practical arts education program for the training of teachers in nonschool settings are encouraged to contact the program adviser. Students who elect this option are not eligible for the University's recommendation for public school certification.

In addition to these degree programs, a two-year curriculum in the College of Education, called education general, is available to students who have completed less than 60 semester hours of credit. It is designed to accommodate students admitted as freshmen who are uncertain about the specific degree programs they wish to pursue in the College of Education and who need to complete 60 hours to qualify for admission to curricula in the college for which junior standing is an admission requirement.

In addition to offering undergraduate degree programs in education, the College of Education, under the auspices of the Council on Teacher Education, cooperates with four other undergraduate colleges on the Urbana-Champaign campus to provide courses in professional education to undergraduate students who are preparing for careers in teaching and special educational services.

The College of Education also offers graduate degree programs. Detailed information concerning graduate programs in education may be obtained by referring to the College of Education *Graduate Programs Handbook* available in 120 Education Building.

### Requirements

#### ADMISSION

The curricula in education general, early childhood education, and elementary education admit beginning freshmen. Junior standing, at least 60 semester hours of baccalaureate-oriented course work attained at an accredited institution of higher learning, is required for admission to the programs in special education, occupational/practical arts education, and secondary education.

Admission to the College of Education at any level (of freshmen, or transfers from other institutions, or of on-campus transfers from

other colleges) is competitive. Freshmen must complete the University's minimum high school subject pattern described on pages 12 and 13. In addition, freshman applications are evaluated for admission based on ACT/SAT scores and the high school percentile rank achieved at the conclusion of the junior year in high school. Admission for transfer from other institutions and for on-campus transfer is based on the following criteria: the cumulative and UIUC grade-point average(s), grades earned in the course work of the intended major, completion of required course pattern, the quality of the applicant's background statement, and space availability in the desired curriculum. At the time of publication, the minimum grade-point average for transfer admission was 4.0 ( $A = 5.0$ ). A student whose cumulative average is below the minimum criteria may be considered individually, on a petition basis, if enrollment vacancies exist in the curriculum to which the student is seeking admission and if a compelling rationale is presented.

## GRADUATION

Each undergraduate student in the College of Education must meet the University requirements (pages 37 to 39) and the requirements of the Council on Teacher Education (pages 43 to 46) for graduation. Students in all curricula must meet the course and academic credit requirements of their curricula with satisfactory scholastic averages. Student teaching is required of all undergraduates in teacher education and must be completed at the University of Illinois at Urbana-Champaign.

Students in need of additional information concerning regulations and requirements of the College of Education should consult their academic advisers or the assistant dean for professional programs in the College of Education, University of Illinois at Urbana-Champaign, 110 Education Building, 1310 South Sixth Street, Champaign, IL 61820.

For additional requirements pertaining to certification, please refer to the section on the Council on Teacher Education, pages 43 to 46.

## GENERAL EDUCATION

At the time of publication, the University general education requirements were under revision. Prospective and new students should confirm their general education requirements by consulting the college admissions/records officer.

In order to meet the University's current requirements in general education, each candidate for a degree from the College of Education must complete Composition I; Composition II; and at least 6 semester hours of credit in each of three areas: humanities, sciences, and social sciences. In all teacher education curricula, additional credit in these areas is required. These requirements are generally fulfilled by course work offered by the College of Liberal Arts and Sciences. Students must select their courses for general education from the Council on Teacher Education list of approved courses, which is available from academic advisers and the Professional Programs Office.

## Special Programs

## HONORS AT GRADUATION

Eligibility for graduation with honors is established on the fulfillment of residence and scholastic requirements. Residence requirements for graduation with honors are fulfilled under any one of the following conditions:

- Meeting University residence requirements for graduation and having earned at least 54 of the final 60 semester hours of credit in residence at the Urbana-Champaign campus. Course credit that is not included in the grade-point average does not count toward the residence requirement.
- Obtaining waiver of University residence requirements by petition to the Professional Programs Office, 110 Education Building, and having earned at least 54 of the last 60 semester hours of credit, excluding credit for courses that are not included in computation of the grade-point average, through resident study at the Urbana-Champaign campus.
- Meeting University residence requirements and having completed all but 15 hours in resident study at the Urbana-Champaign campus.
- Having completed the first 90 semester hours in residence and all or part of the senior year in an approved program at another institution for a University of Illinois degree.

A student who achieves the required scholastic average in all education courses and in all work presented for graduation (excluding credit for courses not included in the computation of the grade-point average), with professional education and cumulative averages computed separately, may be recommended for honors as follows: honors, minimum professional education and cumulative grade-point averages of 4.5 ( $A = 5.0$ ); high honors, minimum professional education and cumulative grade-point averages of 4.75; highest honors, minimum professional education and cumulative grade-point averages of 4.75 and rank within the top 5 percent of those education students graduating within the same period.

## EDMUND J. JAMES SCHOLARS

For more information concerning the James Scholar program, see page 32.

## CURRICULA

### EDUCATION GENERAL

Education general is a two-year curriculum available to students in the College of Education who have completed less than 60 semester hours of credit. It has been designed to accommodate students who are uncertain about the specific degree programs they wish to enter in the College of Education and students who have not completed the 60 hours required to qualify for admission to curricula in the college for which junior standing is an admission requirement, e.g., secondary education, vocational/technical education, or special education. Students in education general are required to pursue a program of study that includes the course requirements common to all undergraduate programs in the College of Education and the requirements for continuation established by the University and the College of Education. In order to obtain a bachelor's degree, a student must transfer out of education general prior to or during the term in which the student will complete his or her 48th semester hour.

### RECOMMENDED PROGRAM

HOURS	FIRST SEMESTER
3-4	RHET 105 or 108, OR SPCM 111
4	PSYCH 100—Introduction to Psychology
3	Science elective
3-4	HIST 150/151, 152/153, 260, 261, or 262
13-15	Total
HOURS	SECOND SEMESTER
3	Speech performance course or SPCM 112
2-3	Health and physical development
3	Science elective
3	POL S 150—American Government: Organization and Powers
3-4	Mathematics
14-16	Total
HOURS	THIRD SEMESTER
3	Humanities elective
3	E P S 201—Foundations of American Education
3	English or American literature
6	Course work in major or minor
15	Total
HOURS	FOURTH SEMESTER
3	Humanities elective
3	EDPSY 236—Child Development for Elementary Teachers, or
3-4	EDPSY 211—Educational Psychology
3	Laboratory science elective
6	Course work in major or minor
15-16	Total

### CURRICULUM PREPARATORY TO HIGH SCHOOL TEACHING

#### For the Degree of Bachelor of Science in Secondary Education

The following requirements in general education are common to all secondary education specialties. For requirements in addition to those below, refer to pages 43 to 46 for teacher education requirements applicable to all curricula.

It is essential that students consult appropriate teacher education advisers in the selection of specific courses and in the overall planning of degree programs. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30,

1996. Consult the certification officer in 110 Education Building for additional information.

A minimum of 120 hours of credit, excluding basic military science, is required for graduation.

### GENERAL EDUCATION REQUIREMENTS

All courses must appear on the Council on Teacher Education list of approved courses for general education. Courses within the teaching major or minor may be used to satisfy general education requirements provided that they appear on the council list of approved courses.

HOURS	COMMUNICATION SKILLS
8-10	Composition I; Composition II; and a speech performance course
8-10	Total
HOURS	MATHEMATICS AND SCIENCE <sup>1</sup>
3	Mathematics
3-4	Biological science
3-4	Physical science
3-4	Biological or physical science
12-15	Total
HOURS	HUMANITIES
3-4	American history <sup>2</sup>
3	English or American literature
9	Electives <sup>3</sup>
15-16	Total
HOURS	SOCIAL SCIENCES
3	POL S 150—American Government: Organization and Powers
4	PSYCH 100—Introduction to Psychology, or equivalent
3	Electives <sup>3</sup>
10	Total
HOURS	HEALTH AND/OR PHYSICAL DEVELOPMENT
2	Health and/or physical development
2	Total

1. At least one science course must be a laboratory course.

2. American history may be taken in either humanities or social sciences provided that the student completes a minimum of 15 semester hours of humanities and 9 semester hours of social sciences.

3. At least one 3-semester-hour course in non-Western cultures must be taken in either humanities or social sciences.

### SPECIALTY IN ENGLISH

In order to be in good academic standing and to remain in the program, a student must have at least 3.5 (A = 5.0) University of Illinois and cumulative grade-point averages in addition to satisfying those requirements applicable to all teacher education curricula. Students are advised that additional course work may be necessary to reach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & 1101—Introduction to the Teaching of Secondary School Subjects
2	C & 1219—Field Experience in Secondary Teaching
2	C & 1240—Secondary Education in the United States
2	C & 1239—Microteaching: Practice in Teaching Techniques
3	C & 1229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
3	C & 1372—Teaching of Reading in Grades Four through Twelve
4	C & 1241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
29-32	Total
HOURS	REQUIREMENTS FOR BOTH OPTIONS
3	ENGL 385—Literature for the High School, or LIS 304—Library Materials for Young Adults
3	SPCOM 141—Oral Interpretation
HOURS	OPTION A: TEACHER EDUCATION MAJOR IN ENGLISH
3	ENGL 118, 318, or 319—Introduction to Shakespeare
6	ENGL 255 and 256—Survey of American Literature, or equivalent
6	ENGL 209 and 210—Survey of English Literature, or equivalent
3	ENGL 302—Descriptive English Grammar
3	ENGL 381—Theory and Practice of Written Composition
11	English electives
	Six of these hours must be in courses restricted to advanced undergraduates. It is recommended that electives be chosen

from English offerings in literary genres, world and/or classical literature, literary criticism, contemporary literature, backgrounds to literature, rhetoric, and linguistics.

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### TEACHER EDUCATION MINOR OR SUPPORTING AREAS OF CONCENTRATION

Students selecting the teacher education major in English (Option A) must (1) complete one of the teacher education minors (with the exception of rhetoric) listed on page 46, (2) complete at least three courses in each of two areas of concentration, or (3) complete at least two courses in each of three areas of concentration. The areas of concentration are language and communications; language performance, oral and written; humanities and philosophy; methods and theories of critical processes; world and classical literatures; and the teaching of components of English. Courses for the areas of concentration must be selected in consultation with an adviser. Students selecting the teacher education major in literature (Option B) must complete the approved teacher education minor in rhetoric or the approved teacher education minor in the teaching of English as a second language.

120 TOTAL minimum hours, including general education and professional education credits

HOURS	OPTION B: TEACHER EDUCATION MAJOR IN LITERATURE
6-8	ENGL 101, 102, 103, and/or 198—Poetry, drama, fiction, or honors seminar
3-6	ENGL 118, 318, or 319—Introduction to Shakespeare
3	ENGL 215—Practical Criticism
6	ENGL 255 and 256—Survey of American Literature, or equivalent
6	ENGL 209 and 210—Survey of English Literature, or equivalent
5-8	Advanced English electives
29-37	Total

### TEACHER EDUCATION MINOR IN RHETORIC

See pages 46 and 161.

### TEACHER EDUCATION MINOR IN ENGLISH AS A SECOND LANGUAGE

120 TOTAL minimum hours, including general education and professional education credits

### SPECIALTY IN GENERAL SCIENCE

In order to be in good academic standing and to remain in the program, a student must satisfy the following requirements (in addition to those requirements applicable to all teacher education curricula): (1) a student must have at least 3.5 (A = 5.0) University of Illinois and cumulative grade-point averages and (2) a student must also have at least 3.0 University of Illinois and cumulative grade-point averages in all attempts at science and mathematics courses taken at the University and elsewhere. Students are advised that additional course work may be necessary to reach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & 1101—Introduction to the Teaching of Secondary School Subjects
2	C & 1219—Field Experience in Secondary Teaching
2	C & 1240—Secondary Education in the United States
2	C & 1239—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & 1239—Microteaching: Practice in Teaching Techniques
5-8	C & 1241—Techniques of Teaching in the Secondary Schools
1	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
26-30	Total
HOURS	REQUIRED CORE COURSES
10-12	PHYS 101 and 102; or 106, 107, and 108—General Physics
8-10	CHEM 101 and 102; or 107, 108, 109, and 110—General Chemistry
10	Life science <sup>1</sup>
3-4	Descriptive statistics or educational measurement
	Two of the following:
3-6	ASTR 121 and 122; or 210—Descriptive Astronomy or General Astronomy
4	Physical geography
4	Physical geology
42-50	Total

### ELECTIVES

Additional electives in science and courses related to science teaching must be chosen in consultation with an adviser and must be taken to bring the total of such work to approximately 70 semester hours, including 15 semester hours of 200- and/or 300-level courses in science, exclusive of those listed immediately



above. The completion of a teacher education minor in either biology or mathematics is recommended.<sup>2</sup>

120 TOTAL minimum hours, including general education and professional education credits

1. Consult the college office for the appropriate course work.
2. Courses related to science teaching may include mathematics, computer science, history of science, philosophy of science, anthropology, experimental psychology, physical geography, and science education, exclusive of education courses specifically required.

### SPECIALTY IN LIFE SCIENCE

In order to be in good academic standing and to remain in the program, a student must satisfy the following requirements (in addition to those requirements applicable to all teacher education curricula): (1) a student must have at least 3.5 (A = 5.0) University of Illinois and cumulative grade-point averages and (2) a student must also have at least 3.0 University of Illinois and cumulative grade-point averages in all attempts at science and mathematics courses taken at the University and elsewhere. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 129—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
4-5	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
26-30	Total

HOURS	REQUIRED CORE COURSES
10-12	PHYS 101 and 102; or 106, 107, and 108—General Physics
8-10	CHEM 101 and 102; or 107, 108, 109, and 110—General Chemistry
15	BIOL 120, 121, and 122—Life Science
3-4	Descriptive statistics or educational measurement
5-6	CHEM 231 and 234; or 236 and 237—Organic Chemistry
5	Physiology (experimental, including laboratory)
6	Microbiology (including laboratory <sup>3</sup> )
3-5	Vertebrate or invertebrate zoology
3-5	Ecology
3-5	Plant biology (advanced level)
61-73	Total

### ELECTIVES

Additional electives in science and courses related to science teaching must be taken to bring the total of such work to approximately 70 semester hours and must be selected in consultation with an adviser. The completion of a teacher education minor in mathematics or one of the physical sciences is recommended.<sup>2</sup>

120 TOTAL minimum hours, including general education and professional education credits

1. Microbiology laboratory may be taken for 3 to 5 hours credit. The minimum required for teacher education is 3 hours. Students with particular interest in microbiology may take additional hours.
2. Courses related to science teaching may include mathematics, computer science, history of science, philosophy of science, anthropology, experimental psychology, physical geography, and science education, exclusive of the education courses specifically required.

### SPECIALTY IN MATHEMATICS

In order to be in good academic standing and to remain in the program, a student must satisfy the following requirements (in addition to those requirements applicable to all teacher education curricula): (1) a student may not receive more than 5 hours with grades of C or below in the calculus sequence, (2) a student must maintain a 3.5 (A = 5.0) grade-point average in both transfer and UIUC mathematics courses, and (3) a student must maintain 3.5 University of Illinois and cumulative grade-point averages. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
1	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
1	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
0-2	C & I 239—Microteaching, or fifteen clock hours of tutorial experience in mathematics tutoring in an approved mathematics tutorial program
5	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
23-28	Total

HOURS	REQUIRED COURSES
10-11	Calculus and analytic geometry
3	MATH 247—Fundamental Mathematics
3	MATH 302—Topics on Geometry
3	MATH 315 or 318—Linear algebra
3	MATH 344 or 347—Real analysis
3	MATH 317—Introduction to Abstract Algebra
3-4	MATH 361/STAT 351 or MATH 363/STAT 310—Probability-statistics
3	C S 101 and 110, or 125—Computer science
9	Advanced mathematics
40-42	Total hours in mathematics and computer science
120	TOTAL minimum hours, including general education and professional education credits

### SPECIALTY IN PHYSICAL SCIENCE

In order to be in good academic standing and to remain in the program, a student must satisfy the following requirements (in addition to those requirements applicable to all teacher education curricula): (1) a student must have at least 3.5 (A = 5.0) University of Illinois and cumulative grade-point averages and (2) a student must also have at least 3.0 University of Illinois and cumulative grade-point averages in all attempts at science and mathematics courses taken at the University and elsewhere. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Teaching
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
4-5	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
26-30	Total

HOURS	REQUIRED CORE COURSES
10-12	PHYS 101 and 102; or 106, 107, and 108—General Physics
8-10	CHEM 101 and 102; or 107, 108, 109, and 110—General Chemistry
10	Life science <sup>1</sup>
3-4	Descriptive statistics or educational measurement

One of the following options must be completed:

#### Option A: Chemistry

HOURS	REQUIRED COURSES
22-24	Chemistry beyond the core courses. For more detailed information, refer to the Curriculum Preparatory to the Teaching of Chemistry on page 155. Additional electives in science and courses related to science teaching must be chosen in consultation with an adviser and must be taken to bring the total of such work to approximately 70 semester hours. The completion of a teacher education minor in mathematics, physics, or biology is recommended. <sup>2</sup>

#### Option B: Physics

HOURS	REQUIRED COURSES
19	Physics beyond the core courses. For more detailed information, refer to the Curriculum Preparatory to the Teaching of Physics on page 160. Additional electives in science and courses related to science teaching must be taken

to bring the total of such work to approximately 70 semester hours. The completion of a teacher education minor in either mathematics or chemistry is recommended.<sup>2</sup>

### Option C: Earth Science

HOURS	REQUIRED COURSES
32	Earth science beyond the core courses. For more detailed information, refer to the Curriculum Preparatory to the Teaching of Earth Science on page 156. Additional electives in science and courses related to science teaching must be taken to bring the total of such work to approximately 70 semester hours. The completion of a teacher education minor in biology, mathematics, or one of the physical sciences is recommended. <sup>2</sup>
120	TOTAL minimum hours, including general education and professional education credits

1. Consult the college office for the appropriate course work.
2. Courses related to science teaching may include mathematics, history of science, computer science, philosophy of science, anthropology, experimental psychology, physical geography, and science education, exclusive of education courses specifically required.

### SPECIALTY IN SOCIAL STUDIES

This specialty offers preparation for teachers of courses in history, sociology, economics, political science, cultural geography, and general social studies. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
3	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	EP S 201—Foundations of American Education
3	C & I 239—Microteaching Practice in Teaching Techniques
3	C & I 241—Techniques of Teaching in the Secondary Schools
8	ED PR 242—Educational Practice in Secondary Education
1	SP ED 218—Exceptional Students in Secondary Schools
28	Total

Two arrangements are provided for completing the major and minor requirements:

Option A requires a social studies major of at least 41 hours and a minor of at least 20 to 24 hours in an approved teaching field outside the social studies (English, a foreign language, mathematics, etc.). The major under Option A consists of two parts: (1) 20 hours in history and (2) 21 hours distributed to provide one course in each of four of the following fields and some concentration in two of the fields: anthropology, economics, cultural geography, political science, and sociology. These courses must be chosen in consultation with an adviser.

Option B requires a social studies major of at least 36 hours and a minor of at least 20 hours that also is within the social studies field. The major under Option B consists of two parts: (1) 16 to 21 hours in history and (2) 15 to 20 hours distributed to provide courses in three of five fields: anthropology, economics, cultural geography, political science, and sociology. The 20-hour minor is taken entirely in one area (anthropology, economics, geography, political science, or sociology) that has not been included in the major.

The choice of options will be made in consultation with an adviser. Under each option, at least one survey course in American history and one course in American government are required.

### TEACHER EDUCATION MINOR IN ADULT AND CONTINUING EDUCATION

The purpose of this minor is to offer students a course of study to increase their competence as teachers of adults and to open avenues for expanded career options for those planning to be teachers. This is not a field in which one can be certified for elementary or secondary teaching in Illinois. Students should consult with the continuing education adviser, 333 Education Building, before electing to take this minor.

HOURS	REQUIRED COURSES
4	AHCE 362—Adult Learning and Development
4	AHCE 380—Continuing Education General Seminar
4	AHCE 363—Instructional Design
6	Electives (for the selection of electives, students must have prior approval of the adult and continuing education adviser, 333 Education Building)
18	Total

### APPROVED NON-TEACHING MINOR

#### INSTRUCTIONAL APPLICATIONS OF COMPUTERS<sup>1</sup>

A minimum of 18 hours, including the following, is required.

HOURS	COMPUTER SCIENCE
3	C S 101 and 110; 102, 103, 105, or 125—Introduction to computer programming
2-3	C S 232 or 300—Advanced or machine-level programming
3	Advanced computer science elective <sup>2</sup>
8-9	Total

HOURS	INSTRUCTIONAL APPLICATIONS OF COMPUTERS
4	C & I 335—Computer-Assisted Instruction
4	C & I 336; C & I 399, sections AC1, AC2, or AC3; HUMAN 382; or MUSIC 210—Instructional applications in subject fields
3	C & I 199—Practicum in Instructional Applications
9-11	Total

HOURS	ELECTIVE
3	C & I 249—A thesis project
20-23	Total

Students enrolled in this minor may do practice teaching in schools having computer resources for instructional applications.

1. This is not a subject field to be taught but is an additional resource to assist the teacher in the instruction of a teacher education major. Please consult an adviser.
2. A computer science elective chosen from among the general areas of programming, numerical analyses, structure and logic, theory of computation, hardware, and applications of computing.

### CURRICULUM IN BUSINESS EDUCATION<sup>1</sup>

#### For the Degree of Bachelor of Science in Business Education

All students complete requirements as outlined in prescribed courses in business education, general education, professional education, one or more areas of specialization, and general electives. Admission is limited to students who have completed a minimum of 60 semester hours and who meet competitive grade-point average requirements. Each student must complete the requirements of one area of specialization.<sup>2</sup> A student may also complete a second area of specialization or one of the approved teacher education minors. A minimum of 126 hours of credit is required for graduation, excluding basic military service.

For teacher education requirements applicable to all curricula, see pages 43 to 46.

#### GENERAL EDUCATION REQUIREMENTS

All courses must appear on the Council on Teacher Education list of approved courses.

HOURS	COMMUNICATION SKILLS
6-7	RHET 105 or 108 and a speech performance elective, or SPCM 111 and 112
3	B&T W 250 or 253—Business and administrative communication
9-10	Total
HOURS	MATHEMATICS AND SCIENCE <sup>2</sup>
3	STAT 100 or ECON 172—Statistics
4-5	MATH 120, 121, 134 or 135—Calculus
3-4	Biological science
3-4	Physical science
3-4	Biological or physical science
16-20	Total
HOURS	HUMANITIES
3-4	American history
3	English or American literature
9	Electives <sup>1</sup>
15-16	Total

<b>HOURS</b>	<b>SOCIAL SCIENCES</b>
3	POL S 150—American Government
4	PSYCH 100—Introduction to Psychology, or equivalent
3	ECON 102 or 103—Microeconomic or Macroeconomic Principles
10	Total
<b>HOURS</b>	<b>HEALTH AND/OR PHYSICAL DEVELOPMENT</b>
2	Health and/or physical development
2	Total

1. At the time of publication, the business education program was proposed for elimination. No students are currently being admitted to this program.

2. At least one science course must be a laboratory course.

3. At least one 3-semester-hour course in non-Western cultures must be taken in humanities.

\*Although not a requirement for graduation (in terms of credit hours), a minimum of 2,000 hours of employment experience is required in the occupational specialty to be taught.

<b>HOURS</b>	<b>PROFESSIONAL EDUCATION REQUIREMENTS</b>
4	VOTEC 381—Foundations of Career, Occupational, and Practical Arts Education
2-4	VOTEC 392—Curriculum Modification and Individualized Instruction
3	VOTEC 271—Technique and Curriculum Development for Teaching Data Processing and Office Machines
3-4	VOTEC/SP ED 309—Vocational Education for Special Needs Learners
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
5	C & I 241—Techniques of Teaching in the Secondary Schools
8	ED PR 242—Educational Practice in Secondary Education
31-34	Total
<b>HOURS</b>	<b>FOUNDATION COURSES IN BUSINESS</b>
6	ACCY 201 and 202—Principles of Accounting, I and II
3	B ADM 200—The Legal Environment of Business
3	FACE 170, 270, or 371—Consumer education
3	C S 105 or 106—Computer science
15	Total

#### AREAS OF SPECIALIZATION

<b>HOURS</b>	<b>ACCOUNTING-BOOKKEEPING</b>
3	ACCY 211—Intermediate Accounting
3	ACCY 221—Cost Accounting
3	B ADM 210 or 247—Management and organizational behavior
9	Business related electives chosen with the approval of an adviser
18	Total
<b>HOURS</b>	<b>ECONOMICS</b>
3	ECON 173—Economic Statistics, II
3	ECON 300—Intermediate Microeconomic Theory
3	ECON 301—Intermediate Macroeconomic Theory
6-9	Business related electives chosen with the approval of an adviser
9	Choose from a minimum of three:
	ECON 214—Introduction to Public Finance
	ECON 240—Labor Problems
	ECON 255—Comparative Economic Systems
	ECON 313—Economics of Consumption
	FIN 254—Corporate Finance
24-27	Total
<b>HOURS</b>	<b>MARKETING AND DISTRIBUTIVE EDUCATION</b>
3	B ADM 202—Principles of Marketing
3	B ADM 212—Principles of Retailing
3	B ADM 337—Promotion Management
4	VOTEC 382—Cooperative Vocational and Technical Education Programs
6	Business related electives chosen with the approval of an adviser
19	Total
<b>HOURS</b>	<b>SECRETARIAL-OFFICE PRACTICE<sup>1</sup></b>
4	VOTEC 382—Cooperative Vocational and Technical Education Programs
3	B ADM 210 or 247—Management and organizational behavior
12	Business related electives chosen with the approval of an adviser
19	Total

126 Electives to yield this total. Elective hours must be in business, vocational education, or other areas chosen in consultation with an adviser.

1. Students who wish to teach in special fields requiring essential competencies in applied areas such as typing, shorthand, and office machines must obtain an acceptable level of proficiency prior to enrollment in the program, or outline a plan whereby these skills may be obtained prior to enrollment in student teaching. Proficiency levels are validated by the business education faculty through examination.

#### CURRICULUM IN EARLY CHILDHOOD EDUCATION<sup>1</sup>

##### For the Degree of Bachelor of Science in Early Childhood Education

This program focuses on preparing teachers for preschool, kindergarten, and the early primary grades (one through three) of the elementary school. Graduates of the program qualify for the early childhood certificate. A minimum of 128 semester hours of credit, excluding basic military science, is necessary for graduation.

For teacher education requirements applicable to all curricula, see pages 43 to 46.

#### GENERAL EDUCATION REQUIREMENTS

All courses must be selected from the council list of approved courses for general education.

<b>HOURS</b>	<b>COMMUNICATION SKILLS</b>
6-7	RHET 105 or 108 and a speech performance elective or SPCM 111 and 112
3	Composition II
9-10	Total
<b>HOURS</b>	<b>MATHEMATICS/SCIENCE<sup>1</sup></b>
6-8	Biological science
6-8	Physical science (mathematics not acceptable)
3	MATH 200—Computers for Elementary Teachers
3	MATH 201—Mathematics for Elementary Teachers
18-22	Total
<b>HOURS</b>	<b>HUMANITIES<sup>1</sup></b>
6	Literature
3	MUSIC 240—Music for Elementary Teachers, I
3	ARTED 203—Art in the Elementary Grades, I
12	Total
<b>HOURS</b>	<b>AMERICAN HISTORY</b>
3-4	Choose from:
	HIST 150—Composition II/History of the United States to 1877
	HIST 151—History of the United States to 1877
	HIST 152—History of the United States, 1877 to the Present
	HIST 153—Composition II/History of the United States, 1877 to the Present
	HIST 260—Colonial Beginnings and Early United States History to 1815
	HIST 261—The United States in the Nineteenth Century
	HIST 262—The United States in the Twentieth Century
<b>HOURS</b>	<b>SOCIAL SCIENCES<sup>1</sup></b>
4	PSYCH 100—Introduction to Psychology
3	POL S 150—American Government
3-4	Social sciences elective
10-11	Total
<b>HOURS</b>	<b>HEALTH AND/OR PHYSICAL DEVELOPMENT</b>
2	Health and/or physical development
2	Total
<b>HOURS</b>	<b>AREA OF CONCENTRATION<sup>1</sup></b>
18	Additional study in one academic discipline selected from the categories of mathematics, science, social sciences, or humanities and including 9 semester hours of course work at the 200 level or above. (Consult an adviser for the list of approved disciplines.)

1. At the time of publication, this program was being revised.

2. At least one science course must be a laboratory course.

3. At least one 3-semester-hour course in humanities, social sciences, or the area of concentration must be taken in non-Western culture.

<b>HOURS</b>	<b>PROFESSIONAL EDUCATION</b>
3	E P S 201—Foundations of American Education
3	EDPSY 236—Child Development for Elementary Teachers
5	C & I 320—Foundations of Early Childhood Education
3	C & I 321—Principles and Practices in Early Childhood Education



3	Choose one from: C & I 322—Parent Involvement Techniques for Teachers ANTH/HDFS 210—Comparative Family Organization HDFS 310—Contemporary American Family SP ED 338—Families of Children with Special Needs
8	ED PR 232—Educational Practice in Elementary Education
3	SPSHS 383—Development of Spoken Language
3	SP ED 308—Teaching Students with Learning and Behavior Problems in the Regular Classroom, or SP ED 365—Intervention Issues and Practices with Young Children with Disabilities
3	ED PR 238—Educational Practice for Special Fields in Elementary Schools (Prekindergarten Student Teaching)
3	C & I 330—Principles and Practices in Mathematics Education
3	C & I 340—Principles and Practices in Science Education
4	F A 206—Practicum in Teaching the Arts to Preschool Children
3	C & I 345—Principles and Practices in Social Studies Education
3	C & I 360—Principles and Practices in Language Arts Education
3	C & I 367—Principles and Practices in Teaching Literature to Children and Youth
3	C & I 370—Principles and Practices in Reading Education
128	TOTAL minimum hours, including general education and professional education credits

\*Early childhood education students must enroll in the early childhood section of this course.

## CURRICULUM PREPARATORY TO ELEMENTARY SCHOOL TEACHING\*

### For the Degree of Bachelor of Science in Elementary Education

This program focuses on preparing teachers for grades kindergarten through nine and leads to the Illinois Standard Elementary Certificate. A minimum of 124 semester hours, excluding basic military science, is necessary for graduation. Students are advised that additional course work may be necessary to teach middle grades 6 through 8 after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

For teacher education requirements applicable to all curricula, see pages 43 to 46.

### GENERAL EDUCATION REQUIREMENTS

All courses must be selected from the elementary and early childhood list of approved courses for general education.

<b>HOURS</b>	<b>COMMUNICATION SKILLS</b>
6-7	RHET 105 or RHET 108 and a speech performance elective, or SPCOM 111 and 112
3	Composition II
9-10	Total
<b>HOURS</b>	<b>MATHEMATICS AND SCIENCE<sup>1</sup></b>
6-8	Biological science
6-8	Physical science (mathematics not acceptable)
3	MATH 200—Computers for Elementary Teachers
3	MATH 201—Mathematics for Elementary Teachers
18-22	Total
<b>HOURS</b>	<b>HUMANITIES<sup>2</sup></b>
6	Literature (including 3 hours of English or American literature)
6	MUSIC 240 and 241—Music for Elementary Teachers, I and II
6	ARTED 203 and 205—Art in the Elementary Grades, I and II
3	C & I 367—Principles and Practices in Teaching Literature to Children and Youth
21	Total
<b>HOURS</b>	<b>AMERICAN HISTORY</b>
3-4	Choose from: HIST 150—Composition II/History of the United States to 1877 HIST 151—History of the United States to 1877 HIST 152—History of the United States, 1877 to the Present HIST 153—Composition II/History of the United States, 1877 to the Present HIST 260—Colonial Beginnings and Early United States History to 1815 HIST 261—The United States in the Nineteenth Century HIST 262—The United States in the Twentieth Century

<b>HOURS</b>	<b>SOCIAL SCIENCES</b>
4	PSYCH 100—Introduction to Psychology
3	POL S 150—American Government
3-4	GEOG 104, 110, or 210—Cultural geography
10-11	Total
<b>HOURS</b>	<b>HEALTH AND/OR PHYSICAL DEVELOPMENT</b>
2	Health and/or physical development
2	Total
<b>HOURS</b>	<b>AREA OF CONCENTRATION<sup>3</sup></b>
18	Additional study in one academic discipline selected from the categories of mathematics, science, social sciences, or humanities and including 9 semester hours of course work at the 200 level or above. (Consult an adviser for the list of approved disciplines.)

1. At the time of publication, this program was being revised.
2. At least one science course must be a laboratory course.
3. At least one 3-semester-hour course in humanities or the area of concentration must be taken in non-Western culture.

<b>HOURS</b>	<b>PROFESSIONAL EDUCATION</b>
3	E P S 201—Foundations of American Education
3	EDPSY 236—Child Development for Elementary Teachers
5	C & I 237—Theory and Process in Elementary School Teaching
3	C & I 345—Principles and Practices in Social Studies Education
3	C & I 340—Principles and Practices in Science Education
3	C & I 360—Principles and Practices in Language Arts Education
3	C & I 370—Principles and Practices in Reading Education
8	ED PR 232—Educational Practice in Elementary Education
3	SP ED 308—Teaching Students with Learning and Behavior Problems in the Regular Classroom
3	C & I 330—Principles and Practices in Mathematics Education
37	Total
<b>HOURS</b>	<b>ELECTIVES</b>
124	To yield this total (with the above requirements)

## CURRICULUM IN TECHNICAL EDUCATION SPECIALTIES

### For the Degree of Bachelor of Science in Occupational and Practical Arts Teacher

The curriculum outlined below requires a minimum of 128 hours for graduation (excluding basic military science) and prepares persons for educational roles in settings in which public school certification is not necessary: for example, community colleges, adult vocational programs, business and industry, or governmental agencies. Examples of technical specialties commonly taught and/or directed in these settings include fields such as police science, fire science, and industrial technologies (automotive, electronics, construction, metalworking, and aviation). Fifty contact hours of supervised observation and participation experience must be completed prior to the educational internship.

### GENERAL EDUCATION REQUIREMENTS

All courses must appear on the Council on Teacher Education list of approved courses.

<b>HOURS</b>	<b>COMMUNICATION SKILLS</b>
6-7	RHET 105 or RHET 108 and a speech performance elective, or SPCOM 111 and 112
3	B&T W 250, 253, 261; or RHET 133 or 143—Business and technical writing or rhetoric
9-10	Total
<b>HOURS</b>	<b>MATHEMATICS AND SCIENCE<sup>1</sup></b>
3	Mathematics
3-4	Biological science
3-4	Physical science
3-4	Biological or physical science
12-15	Total
<b>HOURS</b>	<b>HUMANITIES</b>
3-4	American history
3	English or American literature
9	Electives <sup>2</sup>
15-16	Total
<b>HOURS</b>	<b>SOCIAL SCIENCES</b>
3	POL S 150—American Government
4	PSYCH 100—Introduction to Psychology, or equivalent

3 ECON 102 or 103—Microeconomic or Macroeconomic Principles

10 Total

#### HOURS HEALTH AND/OR PHYSICAL DEVELOPMENT

2 Health and/or physical development

2 Total

1. At least one science course must be a laboratory course.

2. At least one 3-semester-hour course in non-Western cultures must be taken in humanities.

#### HOURS PROFESSIONAL EDUCATION REQUIREMENTS COMMON TO ALL TECHNICAL EDUCATION SPECIALTIES

3 E P S 201—Foundations of American Education

3 VOTEC 381—Foundations of Career, Occupational, and Practical Arts Education

3 EDP S 211—Educational Psychology

4 VOTEC 388—Special Techniques of Teaching Career, Occupational, and Practical Arts Education

3 VOTEC 152—Pre-educational Internship

4 VOTEC 383—Planning and Organizing Content for Career, Occupational, and Practical Arts Education

5-8 VOTEC 252—Educational Internship

26-29 Total

#### TECHNICAL EDUCATION SPECIALTY REQUIREMENTS

The technical education specialties curriculum provides the opportunity for planning an individual program of study under the supervision of a faculty adviser in the student's special field(s) of interest. Examples of specific programs are on file with the Department of Vocational and Technical Education to aid in program planning.

Each student will develop a pattern of courses in one or more technical specialties and supporting courses earning at least 48 semester hours.

#### SUPERVISED OCCUPATIONAL EXPERIENCE

Cooperative arrangements can be made by the University for supervised occupational experience of technical education specialty students while employed in selected locations. This program is designed for students preparing to become technical instructors in training departments maintained by business or industrial organizations. Students may accumulate up to 17 semester hours of credit through registration in VOTEC 189—Supervised Occupational Experience.

#### CURRICULUM PREPARATORY TO TEACHING PERSONS WITH MODERATE AND SEVERE DISABILITIES

##### For the Degree of Bachelor of Science in Special Education

This two-year curriculum is designed to prepare individuals to teach students with moderate and severe disabilities. An applicant must have a cumulative grade-point average of at least 3.5 (A = 5.0), have prior experience<sup>1</sup> with moderately and severely disabled persons, and have attained junior standing (at least 60 semester hours of baccalaureate credit) upon enrollment in the program. A minimum of 124 hours of credit, excluding basic military science, is required for graduation.

To allow completion of degree requirements within two years, applicants must have earned 60 hours and must have fulfilled all or most of the following general education and preferably some of the professional education requirements prior to enrollment. Admission is made by formal application during the spring semester of the sophomore year.

For teacher education requirements applicable to all curricula leading to public school certification, see pages 43 to 46.

#### GENERAL EDUCATION REQUIREMENTS

All courses must appear on the Council on Teacher Education list of approved courses.

HOURS COMMUNICATION SKILLS  
6-7 RHET 105 or 108 and a speech performance elective, or  
SPCOM 111 and 112

3 Composition II

9-10 Total

#### HOURS MATHEMATICS AND SCIENCE<sup>2</sup>

3 Mathematics

6 Biological science

6 Physical science

15 Total

#### HOURS HUMANITIES<sup>1</sup>

3-4 American history

3 English or American literature

9 Electives

15-16 Total

#### HOURS SOCIAL SCIENCES<sup>1</sup>

3 POL S 150—American Government

4 PSYCH 100—Introduction to Psychology, or equivalent

3 PSYCH 216—Child Psychology

6 Electives

16 Total

#### HOURS HEALTH AND/OR PHYSICAL DEVELOPMENT

2 Health and/or physical development

2 Total

#### HOURS GENERAL EDUCATION ELECTIVES

60 To yield this total

1. Applicants may contact the Department of Special Education for further information, if needed, on the prior experience requirement.

2. At least one science course must be a laboratory course.

3. At least one 3-semester-hour course in humanities or social sciences must be taken in non-Western culture.

#### HOURS PROFESSIONAL EDUCATION REQUIREMENTS

3 E P S 201, 311, or 312—History and philosophy of education

4 ED PR 150, Section MSH—School and Community

Experiences

6 ED PR 220, Section MSH, secondary focus—Educational

Practice in the Education of Exceptional Children

4 EDP S 363—Instructional Design

4 SP ED 336—Systematic Instruction for Students with Special

Needs

21 Total

#### HOURS SPECIAL EDUCATION CORE REQUIREMENTS

3 SP ED 332—Characteristics and Methods of Educating the

Multiply Handicapped

3 SPSHS 383—Development of Spoken Language

3 SPSHS 386—Language Disorders in Children, or SP ED 360—

Communication Strategies for Persons with Severe

Intellectual and/or Physical Disabilities

8 ED PR 220, Section MSH, elementary focus—Educational

Practice in the Education of Exceptional Children

3 SP ED 117—Exceptional Children

3 SP ED 322—Introduction to Mental Retardation

2 SP ED 324—Tests and Measurements in Special Education

3 SP ED 335—Behavior Analysis for Teachers: Applications

with Exceptional Individuals

4 SP ED 337—Curriculum Development and Classroom

Organization for Students with Moderate and Severe

Handicaps

3 SP ED 338—Families of Children with Special Needs

3 SP ED 345—Vocational Training for Mentally Retarded

Adolescents and Adults

38 Total

#### HOURS ELECTIVES

124 To yield this total (with the above requirements)

## COLLEGE OF ENGINEERING

Engineering Hall  
1308 West Green Street  
Urbana, IL 61801  
(217) 333-2280

The College of Engineering prepares men and women for professional careers in engineering and related positions in industry, commerce, education, and government. The college provides training in the mathematical and physical sciences and their application to a broad spectrum of technological and social requirements of society. The engineering curricula, although widely varied and specialized, are built on a general foundation of scientific theory applicable to many different fields. Work in the classroom and laboratory is brought into sharper focus by practical problems that the student solves by methods similar to those of practicing engineers.

Although each student pursues a curriculum chosen to meet individual career goals, all students take certain common courses. Basic courses in mathematics, chemistry, physics, rhetoric, and com-

puter science are required in the first two years. Although the curricula are progressively specialized in the third and fourth years, each student is required to take some courses outside his or her chosen field.

Nontechnical courses are included in each curriculum; they may be required or elective. Many nontechnical courses satisfy the broad objectives of the humanities and social sciences requirements of the engineering curricula, thus making the student keenly aware of the urgent problems of society and developing a deeper appreciation of human cultural achievements. The humanities and social sciences courses are usually drawn from the liberal arts and sciences, economics, and approved courses in fine and applied arts. A student who desires a broader cultural background should consider a combined engineering-liberal arts and sciences program; see page 85.

The Grainger Engineering Library Information Center is a major resource center for students in all curricula. State-of-the-art resources include a digital imaging lab, computer and multimedia lab, instructional services lab, information retrieval research lab, and high-tech classrooms. It also contains the reference books, periodicals, catalogs, and technical publications that students need constantly and provides materials for general reading and private research.

## Departments and Curricula

The College of Engineering includes the Departments of Aeronautical and Astronautical Engineering, Civil Engineering, Computer Science, Electrical and Computer Engineering, General Engineering, Materials Science and Engineering, Mechanical and Industrial Engineering, Nuclear Engineering, Physics, and Theoretical and Applied Mechanics. The undergraduate curricula described later in this section are administered by these units. The work in chemical engineering is administered by the College of Liberal Arts and Sciences. The curriculum in agricultural engineering is administered jointly by the College of Agriculture and the College of Engineering.

The listing by the Accreditation Board for Engineering and Technology of the programs of the College of Engineering, required by the Engineering Accreditation Commission, is Aeronautical and Astronautical Engineering bdc [1950]; Agricultural Engineering bdc [1950]; Ceramic Engineering bdc [1936]; Chemical Engineering bdc [1936]; Civil Engineering bdc [1936]; Computer Engineering bdc [1978]; Electrical Engineering bdc [1936]; Engineering Mechanics bdc [1960]; General Engineering bdc [1936]; Industrial Engineering bdc [1960]; Mechanical Engineering bdc [1936]; Metallurgical Engineering bdc [1936]; and Nuclear Engineering bdc [1978].

Each student entering the College of Engineering declares his or her choice of a curriculum. All first-year students follow the common program for freshmen shown here.

<sup>b</sup> = bachelor's degree, basic-level accreditation; d = day; C = co-op feature meeting special requirements of the Accreditation Board for Engineering and Technology criteria

## Requirements

### ENTERING FRESHMEN ADMISSION

Students seeking admission to the College of Engineering who are recent high school graduates or who have earned fewer than 12 semester hours of credit at other collegiate institutions are classified as new freshmen and must meet the entrance requirements to the College of Engineering that are specified for new freshmen. Students are admitted to the college on a best-qualified basis as determined by ACT composite scores and high school percentile ranks supplied on high school transcripts.

Although new freshmen take a common, or similar, program (shown below), they are asked to choose a curriculum in which they wish to study. A freshman usually can change the curriculum of study during the freshman year. Some restrictions apply when differential admission procedures are used. Because the program of study is essentially the same for all freshman students, such changes can be made without loss of credit toward graduation.

The advanced Mathematics Placement Test is required of all freshman students entering the College of Engineering. They are urged to take the examination during the spring testing period before enrollment.

The Chemistry Placement Test is required of all entering freshmen. This examination will be used to place a student in a background course for engineers, CHEM 100, or in the normal beginning course for engineers, CHEM 101. A student with a superior background in chemistry may take the chemistry proficiency test, which, if passed, will place the student in CHEM 102 and grant the student 3 hours of proficiency credit for CHEM 101; the additional 1 hour must be made up as a free elective. A student with advanced placement credit in mathematics, chemistry, or physics (see pages 29 and 30) will receive credit toward graduation and will be placed in advanced course work consistent with academic preparation.

HOURS	COMMON FIRST-YEAR PROGRAM
0-1	Engineering lecture
6-8	Chemistry <sup>1</sup>
8-10	Mathematics <sup>2</sup>
4	Physics
4	Rhetoric
0-6	Engineering electives
3-6	Electives
31-36	Total

1. The normal freshman chemistry sequence is CHEM 101 and 102.

2. Entering freshmen who do not pass the Mathematics Placement Test will take MATH 112 and MATH 114 or 116.

### TRANSFER STUDENT ADMISSION

The College of Engineering admits qualified transfer students from both community and four-year colleges and has worked closely with these schools in Illinois to implement coordinated engineering programs.

Students may complete the first two years of study in other accredited institutions and transfer to the University of Illinois at Urbana-Champaign with little or no loss of credit, provided that they follow the proper program. A suggested list of courses that should be completed in the first two years before transferring is given below. A range of hours is given in each of these course work areas, because the major concern is that students have an adequate coverage of basic subject matter rather than specific numbers of hours in given areas. Ranges are given applicable to both quarter-hour and semester-hour systems.

QUARTER HOURS	SEMESTER HOURS	SUGGESTED COORDINATED ENGINEERING COURSES
10-15	6-10	Freshman chemistry
15-18	10-12	General physics (taught using calculus)
6-9	4-6	English (rhetoric and composition)
20-24	15-17	Mathematics (total mathematics credits)
16-20	12-14	Calculus or calculus and analytic geometry
8-10	6	Differential equations, linear algebra
4-6	3-4	Engineering graphics (mechanical drawing and/or descriptive geometry)
3-4	2-3	Applied mechanics—statics
3-6	2-3	Applied mechanics—dynamics
3-4	3	Computer science (programming)
QUARTER HOURS	SEMESTER HOURS	OTHER COURSES
9-27	6-18	Social sciences and humanities

Students should complete as many of the suggested courses as possible and select additional courses from those in the Other Courses list above to complete full-time study programs. Normally, a student will complete all of the suggested courses and 8 to 10 additional semester hours of course work. This additional course work may include social sciences and humanities electives but could include work in computer science or advanced mathematics.

Before selecting social sciences and humanities electives, students should familiarize themselves with the elective requirements of the college. A list is available from the Office of the Associate Dean for Academic Programs, 207 Engineering Hall. Any student who wants to transfer to the college must have a cumulative grade-point average of at least 3.6 ( $A = 5.0$ ) to apply, but competitive standards for admission are usually higher than the 3.6 level.

Students may transfer to the college for the fall, spring, or summer session provided they have met competitive grade-point average cutoffs and have completed 60 or more semester hours of work. Transfer students are required to have also completed the basic



mathematics (through calculus), physics, chemistry, and English (rhetoric and composition) sequences in the 60 or more semester hours required for transfer. Transfer students starting their studies in the fall semester are allowed to advance enroll during the preceding summer. Students are informed of this opportunity after they are admitted. Questions are invited concerning this procedure.

A few sophomore-level technical courses may not be offered by most community colleges. However, junior-level transfer students can usually arrange their programs on the Urbana-Champaign campus so that all technical requirements can be completed in a four-semester period on this campus if they wish to do so. If the number of hours remaining to complete a degree requires more than four semesters, the student may enroll for an additional summer session or semester.

Students planning to transfer to the College of Engineering are encouraged to write to the Office of the Associate Dean for Academic Programs, University of Illinois at Urbana-Champaign, 207 Engineering Hall, 1308 West Green Street, Urbana, IL 61801, or to the head of the department to which they wish to transfer. A student should complete all sequences in mathematics, physics, chemistry, and English at one institution to maintain proper continuity. In cases where this is not possible, a student may enroll in a summer session to make up deficiencies. Individual program plans between most transfer institutions and the College of Engineering are available upon request.

Transfer students are not required to take freshman guidance examinations or any other examinations to qualify for admission to the College of Engineering, but all other admission regulations apply to them. Transfer students should consult Admission of Transfer Applicants on page 15 for general information concerning transfer to the University of Illinois at Urbana-Champaign, and students from community colleges should note especially the rules regarding community colleges on page 15.

#### GENERAL EDUCATION

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

#### Special Programs

#### COMBINED ENGINEERING-LIBERAL ARTS AND SCIENCES PROGRAM

A five-year program of study permits a student to earn a Bachelor of Science degree in a field of engineering from the College of Engineering and a Bachelor of Arts or a Bachelor of Science degree from the College of Liberal Arts and Sciences at the Urbana-Champaign campus.

This program affords the student the opportunity to prepare for a career of an interdisciplinary nature. By selecting an appropriate liberal arts and sciences major in combination with the desired engineering curriculum, it is possible for a student to qualify for new careers in industry, business, or government. A student who desires a broader background than can be provided in the four-year engineering curricula can develop a program that includes a well-rounded cultural education in addition to an engineering specialty. Each student must file an approved program with the College of Engineering and with the College of Liberal Arts and Sciences.

Advisers in both colleges assist in planning a program of study to meet the needs and requirements for both degrees. Most combinations of engineering and liberal arts curricula may be completed in two semesters if the student does not have deficiencies in the entrance requirements of either college.

Most engineering curricula can be combined with one of a variety of liberal arts and sciences majors including languages, social sciences, humanities, speech communication, and philosophy. This combined program operates under the following conditions:

- Students entering the program must meet admission requirements for both colleges.
- A student who starts in the program and decides to transfer from it is subject to the existing graduation requirements of the college of his or her choice.
- The degrees of bachelor of science in engineering and bachelor of arts or bachelor of science in liberal arts and sciences are awarded

simultaneously. No student in the combined program is permitted to receive a degree from either college before the completion of the entire program.

- Participants must satisfy the College of Liberal Arts and Sciences foreign language graduation requirement.
- Students electing advanced Reserve Officers' Training Corps and Naval ROTC programs are required to meet these commitments in addition to the combined program as outlined.
- Students having 75 or more hours of transfer credit are not advised to enter this program, because they cannot ordinarily complete it in five years.
- Students transferring from other colleges and universities must plan to complete at least one year in the College of Liberal Arts and Sciences at Urbana-Champaign and one year in the College of Engineering at Urbana-Champaign to satisfy residency requirements if both degrees are to be granted here. Other students should plan to spend a minimum of two years in each college.
- A student is expected to maintain at least a 3.5 ( $A = 5.0$ ) grade-point average to be accepted or to continue in the program. A higher grade-point average may be imposed.

During the first year, students are enrolled in the common freshman program for engineers, which is taken in the College of Engineering (see page 84). Students are normally enrolled in the College of Liberal Arts and Sciences for the second and third years and in the College of Engineering for the fourth and fifth years. A typical combined program follows:

#### Second year

HOURS	FIRST SEMESTER
4	Biological science
5	Calculus and analytic geometry
4	Humanities or social sciences
4	Language
17	Total
HOURS	SECOND SEMESTER
4	Engineering subject
4	Language
3	Liberal arts and sciences major
4	Physics (heat, electricity, and magnetism)
15	Total

#### Third year

HOURS	FIRST SEMESTER
4	Humanities or social sciences
4	Languages
6	Liberal arts and sciences major
4	Physics (light, sound, and the structure of matter)
18	Total
HOURS	SECOND SEMESTER
6-8	Engineering subjects
4	Humanities or social sciences
4	Language
3	Liberal arts and sciences major
17-19	Total

#### Fourth year

HOURS	FIRST SEMESTER
15	Engineering subjects
4	Humanities or social sciences
19	Total
HOURS	SECOND SEMESTER
18	Engineering subjects

#### Fifth year

HOURS	FIRST SEMESTER
15-17	Engineering subjects
HOURS	SECOND SEMESTER
18	Engineering subjects

It may be necessary to adjust the above program to allow the student to take more hours in the liberal arts and sciences program.

For further information about this program, students should write to the Office of the Associate Dean for Academic Programs in the College of Engineering or the Office of the Assistant Dean in the College of Liberal Arts and Sciences at UIUC.

### AFFILIATIONS WITH OTHER LIBERAL ARTS COLLEGES

Through a program of affiliation between the College of Engineering and a number of liberal arts colleges, a student may enroll in a five-year program, earn a bachelor's degree from one of these colleges, and at the same time earn a bachelor's degree in engineering from the University of Illinois at Urbana-Champaign. In general, students spend the first three years at the liberal arts college and the final two years at the University of Illinois at Urbana-Champaign. At the time of transfer, students must meet competitive transfer admission requirements. Students must meet certain residency requirements to participate in this program. Students transferring from these programs must be residents of Illinois to qualify for admission to UIUC.

Increasing numbers of engineering graduates enter leadership roles in industry and government and require a greater understanding of the impact of technology on society. The five-year program encourages a student to develop a broad understanding of the social sciences and humanities while striving for excellence in technical studies. These affiliations have the added benefit of allowing students to take preengineering studies at liberal arts schools chosen on the basis of geographical location, prestige, religious principles, family circumstances, or other personal reasons. Students interested in this dual degree program should meet with advisers from both schools to develop an individual plan of study.

Colleges affiliated with the College of Engineering are:

Adrian College Adrian, Michigan	Anderson College Anderson, Indiana	Augustana College Rock Island, Illinois
Beloit College Beloit, Wisconsin	Butler University Indianapolis, Indiana	Carthage College Kenosha, Wisconsin
De Paul University Chicago, Illinois	Eastern Illinois University Charleston, Illinois	Elmhurst College Elmhurst, Illinois
Grace College Winona Lake, Indiana	Greenview College Greenville, Illinois	Illinois Benedictine College Lisle, Illinois
Illinois College Jacksonville, Illinois	Illinois State University Normal, Illinois	Illinois Wesleyan University Bloomington, Illinois
Knox College Galesburg, Illinois	Lewis University Lockport, Illinois	Loras College Dubuque, Iowa
Loyola University of Chicago Chicago, Illinois	MacMurray College Jacksonville, Illinois	McKendree College Lebanon, Illinois
North Central College Naperville, Illinois	Northern Illinois University DeKalb, Illinois	Olivet Nazarene College Kankakee, Illinois
Saint Ambrose College Davenport, Iowa	Saint Joseph's College Rensselaer, Indiana	Wartburg College Waverly, Iowa
Western Illinois University Macomb, Illinois	Wheaton College Wheaton, Illinois	Yankton College Yankton, South Dakota

### COOPERATIVE ENGINEERING EDUCATION PROGRAM

A five-year program in cooperative engineering education is available to students in all curricula in the college. A student in the program alternates periods of attendance at UIUC with periods of employment in industry or government. The employment, which is an essential element in the educational process, is with the same company each work period and is related to the student's field of study. The assignment increases in difficulty and responsibility with each succeeding period off campus.

Students who wish to join the program must be enrolled in the College of Engineering at the University of Illinois at Urbana-Champaign. If accepted by a participating employer, the first off-campus educational assignment will be scheduled during the summer after the freshman year, or the student will attend the summer session and have the first off-campus assignment during the fall semester after the freshman year. Typical schedules and participating employers are shown in a brochure available from the Cooperative Engineering Office, University of Illinois at Urbana-Champaign, 207 Engineering

Hall, 1308 West Green Street, Urbana, IL 61801; telephone (217) 244-4165; FAX (217) 244-4974; EMAIL: axehunt@u1.cso.uiuc.edu.

Sophomores, advanced undergraduates, and community college transfer students are eligible for the program. Advanced students will still require five years to complete the program, but they will have fewer off-campus assignments.

Students enrolled in the cooperative education program are registered in the University and are considered to be full-time students for the entire five years required by the program. Entries indicating participation in the program are entered on the student's official transcript each semester and summer that he or she is enrolled. Upon successful completion of the program, the student is awarded a certificate signed by the dean of the college and the off-campus coordinator and receives the regular diploma awarded for completing the degree requirements.

### Options and Minors

#### COLLEGE OPTION IN BIOENGINEERING

Bioengineering is a broad, interdisciplinary field that brings together engineering, biology, and medicine to create new techniques, devices, and understanding of living systems to improve the quality of human life. Its practice ranges from the fundamental study of the behavior of biological materials to the design and development of medical instruments.

Any of the engineering curricula will provide a good foundation for work in bioengineering. In addition, however, the engineering undergraduate needs additional courses in the biological sciences and organic chemistry to obtain a strong background for bioengineering. With such a background, the student should be able to progress rapidly on the graduate level in any branch of bioengineering. In industry, the graduate will be competent to handle engineering tasks related to biology.

The courses shown here have been selected specifically for the undergraduate engineering student. There are three alternatives that can be selected to meet the individual student's plans, designated A, B, and C. The listing of bioengineering and related courses is not exhaustive but represents examples of courses. An additional course and lab in organic chemistry or biochemistry would be required for entrance to most medical schools. A minimum of 16 hours is required for the option. To obtain recognition for the bioengineering option, students must register in the Office of the Associate Dean for Academic Programs, 207 Engineering Hall.

#### ALTERNATIVES

A	B	C	BIOLOGY CORE
3	3	3	CHEM 231—Elementary Organic Chemistry
	4		PHYSL 103—Introduction to Human Physiology
3	3	3	PHYSL 301—Cell and Membrane Physiology <sup>1,2</sup>
		3	PHYSL 302—Systems and Integrative Physiology <sup>1</sup>
2	2	2	PHYSL 303—Cell and Membrane Physiology Laboratory
	2	2	PHYSL 304—Systems and Integrative Physiology Laboratory <sup>3</sup>
4			V B 316—Physiology, II
1-2			Mammalian physiology laboratory <sup>4</sup>
13-14	14	13	Total hours for the biology core

1. Biology prerequisites will be waived by the instructor for advanced engineering students.

2. BIOPH 301 may be substituted for PHYSL 301.

3. Engineering students taking Core B are not required to take PHYSL 302 because PHYSL 103 is taken.

4. Several possible courses; consultation with bioengineering adviser is required.

#### HOURS BIOENGINEERING AND RELATED COURSES

Choose one or more:

1	BIEN 120—Introduction to Bioengineering
1-5	BIEN 199—Undergraduate Open Seminar
4	BIEN 254—The Physical Basis of Life (same as BIOPH 254)
0-4	BIEN 270—Individual Study
2	BIEN 270D—Radiation Oncology
3	BIEN 280—Biomedical Imaging
2	BIEN 303—Bone and Cartilage Biology (same as V B 303)
3	BIEN 306—Veterinary Orthopedic Biomechanics (same as V B 306)
3	BIEN 308—Implant Materials for Medical Applications

3	BIOEN 314—Biomedical Instrumentation (same as ECE 314)
2	BIOEN 315—Biomedical Instrumentation Laboratory (same as ECE 315)
0-4	BIOEN 370—Special Topics in Bioengineering (topics vary each semester)
3-4	BIOEN 375—Modeling of Bio-systems (same as ECE 375)
3	BIOEN 380—Magnetic Resonance Imaging
3	ECE 373—Fundamentals of Engineering Acoustics
3	ECE 374—Ultrasonic Techniques
1-4	ENG H 297—Campus Honors Seminar
1	C E 293 MM—Topics in Biomechanics
2	NUC E 241—Introduction to Radiation Protection
2	NUC E 341—Principles of Radiation Protection
5	PHYS 343—Electronic Circuits, I (same as CHEM 323)
4	PHSL 331—General Radiobiology
3-4	Other departmental specialties related to bioengineering (taken as electives)

More information on the bioengineering option is available from the Bioengineering Office, University of Illinois at Urbana-Champaign, 53 Everitt Laboratory, 1406 West Green Street, Urbana, IL 61801; telephone (217) 333-1867; FAX (217) 333-7427; EMAIL bion@ux1.co.uiuc.edu.

#### COLLEGE OPTION IN MANUFACTURING ENGINEERING

Recent national attention on quality and productivity improvements in the manufacturing sector has led to a resurgence of emphasis and activity in manufacturing engineering. The demand is increasing for engineers who will be qualified to design and operate the factories of the future. This field requires the integration of information technology, materials, and machines. It is believed that no single engineering discipline can supply the type of engineer needed for system integration. The option in manufacturing engineering provides an opportunity to engineering students to learn a common language of manufacturing systems engineering.

This program is intended for engineering students in all major disciplines who are interested in manufacturing engineering. The option in manufacturing engineering requires a total of 18 semester hours of course work. Only a small number of these courses may be above and beyond the requirements of the student's regular curriculum, particularly if the student can make use of technical elective or similarly designated hours.

HOURS	REQUIREMENTS
3	MFG E 210—Introduction to Manufacturing Systems
6	Level 2 courses:
3	MFG E 320—Decision-Making and Control Applications in Manufacturing
3	MFG E 330—Interfacing Methods for Manufacturing Systems
3	MFG E 340—Processing and Finishing of Materials
3	MFG E 350—Information Management for Manufacturing Systems
9	Level 3 courses. In order that the option have some coherence, the three courses must be selected from specified groups of courses related to the Level 2 courses.

Courses within a given discipline that are required for completion of the bachelor's degree in that discipline may not be used by students in that discipline to satisfy the Level 3 course requirements of the option.

It is recommended that one of the Level 3 courses be an independent study project course dealing with an open-ended manufacturing design problem defined by an outside organization. Students enrolled in the project course will apply engineering principles and techniques learned from manufacturing-related courses and topics covered in their major disciplines in the formulation, analysis, and solution of manufacturing design problems.

Level 3 Courses: Each Level 2 course is supported by approximately twenty to thirty Level 3 courses that now exist within the course structures of the various engineering departments. These courses provide students with the opportunity to specialize in one or more aspects of manufacturing engineering.

The course of study for a manufacturing option thus provides a student with a flexible program that can be tailored to suit the area of interest and the major engineering discipline in which the student is enrolled. To foster an interdisciplinary learning environment, a set of laboratories is being developed. The main laboratory is the Intelligent

Manufacturing Systems Laboratory, which consists of a flexible manufacturing cell.

The director of the program is Professor Shiv G. Kapoor, Department of Mechanical and Industrial Engineering (phone 333-3432). Additional information can be obtained from him or at the Office of the Associate Dean for Academic Programs, 207 Engineering Hall.

#### COMPUTER SCIENCE MINOR

This minor is offered by the Department of Computer Science for students seeking significant knowledge of digital computers without the more complete treatment of a major in computer science. The foundation 100- and 200-level courses in computer programming and software and in theory of computation are required. Three elective 200- and 300-level courses provide some specialization and depth and breadth of study. This minor cannot be taken by computer engineering majors. Specific requirements are listed below. Note that some courses have other prerequisites.

HOURS	REQUIRED COURSES
3	CS 125—Introduction to Computer Science
1	CS 223—Software Laboratory
4	CS 225—Data Structures and Software Principles
2	CS 173—Discrete Mathematical Structures
3	At least one additional course chosen from:
	CS 231—Computer Architecture, I
	CS 232—Computer Architecture, II
	CS 257—Numerical Methods
	CS 273—Introduction to Theory of Computation
	CS 281—Introduction to Computer Hardware
	CS 348—Introduction to Artificial Intelligence
3	At least one 300-level course chosen from:
	CS 323—Operating Systems Design
	CS 325—Programming Language Principles
	CS 331—Microprocessor Systems
	CS 333—Computer System Organization
	CS 373—Combinatorial Algorithms
	CS 375—Automata, Formal Languages, and Computational Complexity
	CS 358—Numerical Linear Algebra
	CS 359—Numerical Approximations and Ordinary Differential Equations
	CS 335—Introduction to VLSI System Design
	CS 363—Integrated Circuit Logic Design
	CS 384—Computer Data Acquisition Systems
	CS 389—Advanced Computer Circuits
	CS 341—Mechanized Mathematical Inference
	CS 342—Computer Inference and Knowledge Acquisition
	CS 346—Pattern Recognition and Machine Learning
	CS 347—Knowledge-Based Programming
3	Another 200- or 300-level course chosen from the lists above or from these additional courses:
	CS 311—Database Systems
	CS 318—Computer Graphics
	CS 326—Compiler Construction
	CS 327—Software Engineering
	CS 328—Computer Networks and Distributed Systems
	CS 338—Communication Networks for Computer
	CS 362—Logic Design
	CS 339—Computer-Aided Design for Digital Systems
19	Total

#### FOOD AND PROCESS ENGINEERING MINOR

The food processing industry is the largest manufacturing industry in the United States and in the world. Nearly all food products require some preservation, processing, storage, and shipping. Preservation and processing techniques for foods, pharmaceuticals, and related products are becoming increasingly scrutinized to insure safety of the products and to increase productivity of the processes.

Technical developments in the food, pharmaceutical, and related processing industries have created a need for professionals with training in food and process engineering. The demand for engineers with specialized training is increasing as processing techniques become more sophisticated and as companies improve their facilities.

Engineering students interested in developing a background in food or process engineering may pursue a structured program of study that will lead to a bachelor's degree in an engineering discipline and a minor in food and process engineering at graduation. This program is intended for engineering students in all major disciplines. In most cases, courses from the minor can be applied as electives in the student's major.

To receive a minor in food and process engineering, a student must complete the following requirements:



dit hours of required courses. (See Required

edit hours of elective courses. (See Elective

at a food, pharmaceutical, or related processing  
relationship below.)

of science degree in the student's chosen field of  
study.

REQUIRED COURSES	
1	201—Introductory Food Chemistry for Non-Majors
1	S 203—Food Microbiology for Non-Majors, I
1	F S 204—Food Microbiology for Non-Majors, II
2	F S 302—Food Processing, I <sup>1</sup>
2	AG E 271—Transport Phenomena in Food Process Design <sup>2</sup>
2	AG E 383—Engineering Properties of Food Materials
2	AG E 385—Food and Process Engineering Design
12	Total

#### ELECTIVE COURSES

Choose 4 semester credit hours from the following<sup>3</sup>:

1	AG E 282 <sup>1</sup> —Food Packaging Technology
1	AG E 284 <sup>1</sup> —Scale-up of Food Processes
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurement
3	AG E 387—Grain Drying and Conditioning
3	AG E 389—Process Design for Corn Milling
4	F S 260—Raw Materials for Processing
1	F S 276—Sensory Evaluation of Food Products
1	F S 279—Marketing of Food Products
3	F S 301—Food Processing, I
2	F S 332—Sanitation in Food Processing

Other courses, subject to approval

#### INTERNSHIP

An internship with a food, pharmaceutical, or related processing company is required (ENG 210). It is expected that all students making satisfactory progress in the minor will have opportunity for employment. Assignments will be determined by interviews and contacts with company representatives, and students will compete with others in the program for specific positions. Each student is required to write a paper that summarizes the internship. (Under certain conditions this requirement may be replaced by an additional three semester credit hours of course work.)

More information about the food and process engineering minor is available from Bruce Litchfield, 360E Agricultural Engineering Sciences Building (AESB), telephone (217) 333-9525, EMAIL b.litch@uiuc.edu; Marvin Paulsen, 360B AESB, telephone (217) 333-7926, EMAIL mrrp@age2.age.uiuc.edu; Steven Eckhoff, 360C AESB, telephone (217) 244-4022, EMAIL sre@age2.age.uiuc.edu; or from the Office of the Associate Dean for Academic Programs, 207 Engineering Hall.

1. Lecture portion of the course only.

2. Students with credit in transport phenomena may substitute two hours of elective course.

3. Students may petition to substitute similar courses for electives.

4. Under development or revision. May be offered as special programs.

#### POLYMER SCIENCE AND ENGINEERING MINOR

Polymer science and engineering is a broad interdisciplinary field that brings together various aspects of chemistry, physics, and engineering for the understanding, development, and application of the materials science of polymers. Many of the existing engineering curricula provide a good foundation for work in polymer science and engineering. However, the undergraduate student needs additional courses specifically dealing with the science and engineering of large molecules. With such a background, the student should be able to progress rapidly in industry or at the graduate level. In addition to those students specifically desiring a career in polymers, this minor also can be valuable to students interested in the development, design, and application of materials in general.

The courses listed below have been selected specifically to give an undergraduate student a strong background in polymer science and engineering. A minimum of eight courses is required, several of which the student would normally take to satisfy the requirements of the basic degree. To obtain recognition for the polymer science and engineering minor, students must register in the Office of the Associate Dean for Academic Programs, 207 Engineering Hall. The student should also consult with Professor Philip H. Geil, Department of

Materials Science and Engineering, 211 Metallurgy and Mining Building, when considering the option and deciding on a program.

#### CORE COURSES

3	MATSE 350—Introduction to Polymer Science and Engineering, or CH E 392—Polymer Science and Engineering
3	MATSE 352—Polymer Characterization Laboratory
3	MATSE 353—Plastics Engineering

#### HOURS

##### THERMODYNAMICS

Choose one of the following:

4	MATSE 301—Thermodynamics of Materials
3	M E 205—Thermodynamics
4	PHYCS 361—Thermodynamics and Statistical Mechanics
3	CH E 370—Chemical Engineering Thermodynamics
8	CHEM 342—Physical Chemistry, I; and CHEM 344—Physical Chemistry, II

#### HOURS

##### MECHANICAL PROPERTIES

3	T A M 221—Elementary Mechanics of Solids
---	--

#### HOURS

##### CHEMISTRY

4	CHEM 236—Fundamental Organic Chemistry, I
---	---

#### HOURS

##### RELATED COURSES

Choose at least two of the following<sup>1</sup>:

3	T A M 328—Mechanical Behavior of Composite Materials
3	MATSE 380—Surfaces and Colloids
3	MATSE 387—Polymer Chemistry
3	MATSE 388—Polymer Physical Chemistry, I
3	MATSE 355—Polymer Physics, I: Structure and Properties
2-3	CH E 387—Applied Chemical Kinetics and Catalysis
4	PHYCS 389—Introduction to Solid-State Physics
3	CHEM 336—Fundamental Organic Chemistry, II
3	CHEM 337—Organic Chemistry
3	T A M 321—Advanced Mechanics of Solids
3	M E 346—Materials and Design
4	T A 380—Advanced Textiles

1. Other polymer-related courses may be substituted upon petition.

#### THESIS

With the approval of the department concerned, a senior of high standing in any curriculum may substitute, for one or more technical courses, an investigation of a special subject and write a thesis.

#### CURRICULUM MODIFICATION

A student interested in modifying his or her curriculum may do so by checking with his or her department and adviser to determine the petition procedure for making a curriculum modification.

#### SPECIAL CURRICULA

Students of high scholastic achievement, with exceptional aptitudes and interests in special fields of engineering and their application, may be permitted to vary the course content of the standard curricula to emphasize some phases not included or not encompassed by the usual course substitution and selection of electives. These unwritten curricula, however, must include all of the fundamental courses of the standard curricula, the variations being made mainly in the so-called applicatory portions of the standard curricula of the college. The program of study of each student permitted to take such a special curriculum must be approved by a committee of the college, in consultation with the head of the department in which the student is registered and with a faculty member of the college. This faculty member automatically becomes the student's adviser in charge of registration and other matters pertaining to the approved program.

#### ADVANCED ROTC TRAINING COMBINED WITH ENGINEERING

A student in the College of Engineering may elect to participate in the Reserve Officers' Training Corps Program and earn a commission in the U.S. Army Reserve, Air Force Reserve, or Naval Reserve. A commission is awarded simultaneously with the awarding of the bachelor of science degree in an engineering field. Participation in these programs is limited to students who apply to and are selected by the army, air force, and navy units at the University. Monthly stipends are paid to those selected for advanced military training.

These programs require from one to three summer camps or cruises and the earning of specified numbers of credits in advanced military courses. Credits earned appear in all academic averages computed by the College of Engineering. Basic military courses (100-

level) do not count toward graduation. A maximum of 6 hours of 200-level military science courses may be used as free electives. A student should plan on taking nine semesters to obtain both a bachelor's degree in engineering and a commission in the ROTC program. For further information, write directly to the professor of military science, the professor of aerospace studies, or the professor of naval science. (See pages 40 through 43.)

## International Opportunities

### INTERNATIONAL MINOR IN ENGINEERING

Many College of Engineering graduates will be involved in international activities during their professional careers. In anticipation of such involvement, the college offers an opportunity for students to complete an international minor in any of the regular degree programs offered. More than 95 percent of the engineering students have had language training in high school, and this program allows them to continue their studies in related areas. All requirements must be satisfied before graduation. To complete the international minor, the student must:

- complete all degree requirements in the student's selected engineering discipline;
- complete foreign language studies in a language of a chosen geographical area (language level required will vary with the geographical area selected);
- complete a minimum of 21 hours of cultural or language studies related to the geographical area of concentration; 9 hours must be other than language credit and include at least one 300-level course;
- complete a period of involvement (a work period, study period, internship, or other form of involvement) of at least six to eight weeks in the geographical area of concentration.

The student will be expected to select a specific geographical area for concentration that will be recognized in the designation of the minor, such as international minor—Latin American studies. Course work selected for the minor must be approved by the International Programs in Engineering office. A list of suggested courses is available from that office.

Through its association with the International Association for the Exchange of Students for Technical Experience, the college can assist students in gaining some work opportunities in other countries. The college can assist students in finding educational exchange programs at institutions in other countries that will help the student meet the "period of involvement" requirement. Students with foreign language backgrounds before entering the college will normally be able to complete the program in four academic years. Those not having this background, or taking a year of study in a foreign institution, may take four and one-half to five years.

### ELMENDORF WORLD CITIZENSHIP TRAVEL AWARDS

An alumnus of the College of Engineering, Armin Elmendorf, established this fund to encourage engineering students to seek an understanding of the responsibilities of world citizenship. Engineering students traveling abroad as part of the educational programs sponsored by the College of Engineering are eligible for some financial aid. These funds have certain requirements for qualification. Further information about these travel awards may be obtained from the International Programs in Engineering office.

### ON-THE-JOB TRAINING IN FOREIGN COUNTRIES

The International Association for the Exchange of Students for Technical Experience (IAESTE) is a private, nonprofit organization that enables students of engineering, architecture, and the sciences to obtain on-the-job training in foreign countries. Any student, undergraduate or graduate, who is enrolled in good standing at the University and who has completed at least the sophomore year of study may apply. Generally, the maintenance allowance is adequate to cover living expenses while in training but does not cover transportation costs. Further information about these opportunities may be obtained from the College of Engineering.

### EAGLE JAPAN PROGRAM

The Engineering Alliance for Global Education (EAGLE) is an alliance of engineering colleges organized to provide global educational op-

portunities for their students. Supported by a government grant, EAGLE prepares engineering students in Japanese language and cultural studies for placement into Japanese industrial work experiences. Applicants attend an eight-week summer language program in Japan; afterwards, EAGLE seeks to place them in Japanese industry for internships of one to two years.

The program requires the completion of one or two years of Japanese studies or equivalent preparation. Students must have a bachelor's degree before placement in the work experience.

### EXCHANGE SCHOLARSHIPS AT MUNICH AND DARMSTADT, GERMANY

The College of Engineering has exchange scholarships with the Technical University in Munich, Germany, and the Technische Hochschule Darmstadt in Darmstadt, Germany. Under the terms of the agreement, two University of Illinois students are given tuition scholarships at the Technical University in Munich and five are given scholarships at the Technische Hochschule Darmstadt. Stipends to cover living expenses for the year are included in the Munich program. Students selected by the Technical University in Munich and by the Technische Hochschule Darmstadt receive tuition scholarships at the University of Illinois at Urbana-Champaign. Equivalent cash stipends are awarded to the Munich students. Students are responsible for their own transportation expenses.

To be eligible for study at the Technical University in Munich, a student should be enrolled in one of the following curricula: civil engineering, electrical engineering, industrial engineering, mechanical engineering, metallurgical engineering, nuclear engineering, engineering physics. To be eligible for study at the Technische Hochschule Darmstadt, a student should be enrolled in one of the following curricula: civil engineering, chemical engineering, mechanical engineering, physics. It is expected that the full year's study abroad will be used toward graduation in the student's curriculum at Urbana-Champaign.

To participate in one of the programs, a student must have completed GER 104 or the equivalent (additional courses in German are recommended) and finished his or her sophomore studies in engineering at the Urbana-Champaign campus. In addition, the student must be an outstanding scholar who will be an excellent representative of the University of Illinois and must be a U.S. citizen.

The programs are under the general administration of the Engineering College Honors Council, although a recipient need not be an honors student if he or she has an outstanding undergraduate record.

### FRENCH EDUCATIONAL EXCHANGE PROGRAM

College of Engineering students may participate in the French exchange programs at the following institutions: Institut National Polytechnique de Lorraine (INPL), Nancy, and Université de Technologie de Compiègne, Compiègne. Each student should be a junior and should have credit for FR 104 or the equivalent, although additional courses in French are recommended. One- or two-semester programs are available, with tuition and certain academic-related expenses provided.

The CESELEC program offers electrical and computer engineering students a chance to study at one of France's Grandes Ecoles. CESELEC is an association of universities, industries, and government administrators designed to organize foreign relations in education and training. Students with junior- or senior-level standing and advanced French-language skills can select an institution that specializes in an area of interest in electrical engineering. The renowned Grandes Ecoles offer top-level instruction in electrical engineering and are located in cities throughout France. CESELEC exchanges provide students with an opportunity to live among French students, experience European culture, and improve language skills for a semester or academic year.

### SUMMER EXCHANGE PROGRAMS IN ARGENTINA, BRAZIL, CHILE, CHINA, FRANCE, JAPAN, AND RUSSIA

To introduce College of Engineering students to the cultures and languages of Argentina, Brazil, Chile, China, France, Japan, and Russia, programs were developed with different institutions in these countries. These opportunities are designed mainly to enable students to learn about the people of these countries during a six-week period, to study the language, and to work in a limited way with technology. Travel to interesting places is included in a few of these programs. Credit-hour courses in the appropriate language are required in the

spring semester before departure. Lodging, meals, and medical care are provided.

#### OTHER STUDY ABROAD EXCHANGE PROGRAMS

Many exchange programs are available for engineering students on this campus with educational institutions throughout the world. The College of Engineering works closely with the Study Abroad Office in developing programs of study in which course credits can be transferred to this campus. The College of Engineering is planning programs with institutions in Spain and other countries. Further information about these programs may be obtained from the International Programs in Engineering office, College of Engineering.

### Honors Programs

#### HONORS AT GRADUATION

Honors awarded at graduation to superior students are designated on the diploma as honors, high honors, or highest honors. A student receives honors with a cumulative University of Illinois grade-point average of at least 4.5, and high honors with at least a 4.8 grade-point average at graduation ( $A = 5.0$ ). Highest honors may be awarded to any student eligible for high honors upon recommendation of his or her department. The criteria used by departments in selecting individuals for highest honors recognition include outstanding performance in course work and in supplementary activities of an academic or professional nature. Ordinarily, such a citation requires completion of an undergraduate thesis or a special project of superior quality.

#### TAU BETA PI

Tau Beta Pi is a national engineering honor society that recognizes students, alumni, and engineers for outstanding academic achievements and exemplary character. The Alpha chapter at the University of Illinois at Urbana-Champaign was founded in 1897 and is the fifth oldest chapter of Tau Beta Pi. In addition to gaining scholastic recognition, members participate in a range of activities that serve the chapter, the College of Engineering, and the community. The scholastic requirement for membership in Tau Beta Pi is that juniors must be in the upper one-eighth of their graduating class and seniors must be in the upper one-fifth of their graduating class.

#### EDMUND J. JAMES SCHOLARS

The honors program in engineering is part of the University's James Scholar program, which was established to recognize and develop the talents of academically outstanding students. Engineering students in this program are known as "James Scholars in Engineering." Each is assigned to an honors adviser and receives special consideration in the selection of a course program to meet specific needs. Students may apply for the program during summer advance enrollment or at the beginning of any semester.

A new freshman is eligible to enter the program if he or she meets two of the following three requirements: (1) rank in the top 10 percent of his or her high school graduating class; (2) ACT subscore in mathematics of 34 or better; (3) ACT composite score of 31 or better. To be eligible for admission and continuation in the James Scholar program in engineering, students other than new freshmen must have cumulative grade-point averages of 4.5 or better for juniors and seniors and 4.3 or better for sophomores. A transfer student with a superior transfer record may be accepted into the program on request after the completion of one normal semester in engineering with a grade-point average commensurate with the requirement for the student's class.

Good standing in the James Scholar program at graduation requires participation in special honors work for a majority of the semesters in which a student is in residence.

#### DEAN'S LIST

See the reference to the Dean's List on page 40.

#### Electives

#### HUMANITIES AND SOCIAL SCIENCES ELECTIVES

A total of 18 hours of humanities and social sciences is required (in addition to rhetoric), including one sequence in the humanities and one in the social sciences. The two sequences cannot be in the same department. A sequence is defined as any combination of at least 6 hours of approved courses taught by a single nonengineering depart-

ment or any of the interdisciplinary sequences. Additional courses to complete the 18 hours must also be drawn from the list of approved courses. This list is available from advisers or from the Office of the Associate Dean for Academic Programs. All seminars (including 199), honors courses, thesis courses, and individual study are excluded except as specifically approved.

Students may obtain credit from different academic sources, i.e., residential instruction, College-Level Examination Program tests, advanced placement tests, and transfer credits. Credit in any specific subject may be used toward degree requirements only once. Because of the variety of sources available for social sciences and humanities electives, students may receive duplicate credit in specific courses, such as American history. Students should be aware that such duplication cannot be used toward degree requirements.

#### TECHNICAL ELECTIVES

Each engineering curriculum offers some elective opportunities, which may be specified as technical or nontechnical. All technical elective courses must be selected in accordance with departmental requirements.

Technical electives generally include 200- and 300-level courses in engineering, mathematics, and the natural sciences.

#### FREE ELECTIVES

These electives are selected at the prerogative of the student except as noted below.

Credit will not be allowed for courses of a remedial nature, such as mathematics below analytic geometry or basic military training. No more than 3 semester hours of physical education course work (basic level, i.e., activity courses) may be used as free electives nor may they be applied toward degree requirements. No more than 4 hours of religious foundation courses or 6 hours of advanced military science courses may be used as free electives.

Total transfer credit in required basic courses in mathematics (through integral calculus), physics, rhetoric, freshman chemistry, computer science, and engineering graphics may be used for free electives only if the credit covers topics beyond those in equivalent courses at UIUC. Further restrictions on the acceptance of transfer credit for free electives may be imposed by the departments with the approval of the associate dean for academic programs.

#### CREDIT-NO CREDIT OPTION

The credit-no credit grade option is available for students who want to explore areas of academic interest that they might otherwise avoid for fear of poor grades. All students considering this option are cautioned that many graduate and professional schools consider applicants whose transcripts bear a significant number of nongrade symbols less favorably than those whose transcripts contain none or very few. Conditions under which students may take courses on a credit-no credit basis are outlined in the booklet *Code on Campus Affairs and Handbook of Policies and Regulations Applying to All Students*, which is distributed to all students. Required courses in the College of Engineering may not be taken on this basis.

### CURRICULA

#### CURRICULUM IN AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

Department of Aeronautical and Astronautical Engineering  
306 Talbot Laboratory  
104 South Wright Street  
Urbana, IL 61801  
(217) 333-2651

#### For the Degree of Bachelor of Science in Aeronautical and Astronautical Engineering

This curriculum provides a strong fundamental background in engineering and applied science with emphasis on aircraft and space flight engineering. The program is designed to give the student a basic engineering education applicable to related engineering disciplines including graduate study. As many as 15 hours in free and technical electives can be used to provide a diversified program of study.

The curriculum requires 134 hours for graduation. A curriculum revision was pending at the time of publication. See a departmental adviser for more information.



**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
3	Elective in social sciences or humanities <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	G E 103—Engineering Graphics and Design
3	MATH 130—Calculus and Analytic Geometry, II
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
2	MATH 225—Introductory Matrix Theory
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	T A M 150—Analytical Mechanics (Statics)
3	Elective in social sciences or humanities <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions
3	M E 205—Thermodynamics
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 212—Engineering Mechanics, II (Dynamics)
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
4	A A E 212—Aerodynamics, I
4	A A E 224—Flight Structures, I
4	A A E 254—Aerospace Dynamic Systems, I
3	MATH 280—Advanced Calculus
3	Elective <sup>2</sup>
18	Total
HOURS	SECOND SEMESTER
4	A A E 213—Aerodynamics, II
4	A A E 225—Flight Structures, II
3	A A E 233—Aircraft Propulsion
4	A A E 255—Aerospace Dynamic Systems, II
3	Elective in social sciences or humanities <sup>1</sup>
18	Total

**Fourth year**

HOURS	FIRST SEMESTER
2	A A E 260—Aerospace Laboratory, I
1	A A E 292—Seminar
3	Elective in social sciences or humanities <sup>1</sup>
10	Electives <sup>2</sup>
16	Total
HOURS	SECOND SEMESTER
3	A A E 241—Aerospace Flight Systems Design <sup>3</sup>
2	A A E 261—Aerospace Laboratory, II
11	Electives <sup>2</sup>
16	Total

1. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

2. Elective credits totaling 24 hours are required for graduation. These electives must contain at least 6 hours from List A below and 3 hours from List B. In addition, credit is required in at least one 300-level aeronautical and astronautical engineering course. A total of 6 hours of electives are free electives. The remaining are technical electives.

A: ECE 229, 244, 260, 270, 340; PHYS 331, 333

B: MATSE 346; PHYS 383

3. Satisfies the general education Composition II requirement.

**CURRICULUM IN AGRICULTURAL ENGINEERING**

Department of Agricultural Engineering  
338 Agricultural Engineering Sciences Building  
1304 West Pennsylvania Avenue  
Urbana, IL 61801  
(217) 333-3570  
FAX: (217) 244-0323  
EMAIL: leb@age2.age.uiuc.edu

**For the Degree of Bachelor of Science in Agricultural Engineering**

Agricultural engineering is the integration of biological and physical sciences as a foundation for engineering applications in agriculture, food systems, natural resources, the environment, and related biological systems. Agricultural engineers are involved in the design of systems that include food and bioprocess engineering, off-road equipment, bioenvironmental engineering of plant and animal facilities, water quality, and systems for the use and protection of soil and water resources. Important design constraints are economics, conservation of materials and energy, safety, and environmental quality. Graduates are employed by industry, consulting firms, and government for research, education, and manufacturing. All graduates obtain a four-year ABET-accredited bachelor of science degree from the College of Engineering and may receive an optional five-year bachelor of science degree from the College of Agriculture. By choice of electives, a student may direct his or her program toward specialization in power and machinery, soil and water, structures and environment, or electric power and processing or to a separate food and bioprocess engineering specialization. Individual programs are checked by departmental advisers to ensure that Accreditation Board for Engineering and Technology requirements are met for any chosen specialization.

The curriculum requires 128 hours for graduation except for the specialization in food and bioprocess engineering, which requires 132 hours for graduation.

**SPECIALIZATION IN POWER AND MACHINERY, SOIL AND WATER, STRUCTURES AND ENVIRONMENT, OR ELECTRIC POWER AND PROCESSING****First year**

HOURS	FIRST SEMESTER
1	AG E 100—Introduction to Agricultural Engineering
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition <sup>1</sup>
17	Total
HOURS	SECOND SEMESTER
3-4	CHEM 102—General Chemistry* or CHEM 103—Organic Chemistry
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
4	Biological and natural sciences elective <sup>2</sup>
16-17	Total

**Second year**

HOURS	FIRST SEMESTER
4	AG E 221—Engineering for Agricultural and Biological Systems
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2-3	T A M 150—Analytical Mechanics (Statics) or T A M 152—Engineering Mechanics, I (Statics)
15-16	Total
HOURS	SECOND SEMESTER
4	AG E 222—Engineering for Bioprocessing and Bioenvironmental Systems
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)

3	T A M 212—Engineering Mechanics, II (Dynamics)
15	Total

**Third year****HOURS FIRST SEMESTER**

3	Agricultural engineering technical elective <sup>1</sup>
3-4	ECE 260—Introduction to Electric Circuits, or ECE 270—Introduction to Circuit Analysis
3	T A M 221—Elementary Mechanics of Solids
3-4	STAT 310/MATH 363—Introduction to Mathematical Statistics and Probability, I, or C E 293—Engineering Modeling Under Uncertainty, or I E 238—Analysis of Data
3	Elective in social sciences or humanities <sup>4,5</sup>
15-17	Total

**HOURS SECOND SEMESTER**

3	Agricultural engineering technical elective <sup>1</sup>
1	AG E 298—Undergraduate Seminar
3	ECON 103—Macroeconomic Principles <sup>4</sup>
3-4	M E 209—Thermodynamics and Heat Transfer, or M E 205—Thermodynamics, or CH E 370—Chemical Engineering Thermodynamics
3-4	T A M 235—Fluid Mechanics, or CH E 371—Fluid Mechanics and Heat Transfer, or M E 211—Introductory Gas Dynamics
3	Elective in social sciences or humanities <sup>4,5</sup>
16-18	Total

**Fourth year****HOURS FIRST SEMESTER**

3	Agricultural engineering technical elective <sup>1</sup>
6	Elective in social sciences or humanities <sup>4,5</sup>
3	Technical elective <sup>1</sup>
3	Free elective <sup>1</sup>
2	AG E 299—Undergraduate Thesis
17	Total

**HOURS SECOND SEMESTER**

3	Agricultural engineering technical elective <sup>1</sup>
3	Free elective <sup>1</sup>
3	Technical elective <sup>1</sup>
4	Biological and natural sciences elective <sup>2</sup>
3	Elective in social sciences or humanities <sup>4,5</sup>
16	Total

\* Biological version recommended.

1. Students may take SFCOM 111 and 112 in place of RHET 105.

2. Students must complete 8 hours from biological and natural sciences approved list.

3. Students must have 18 hours of technical electives; at least 12 hours must be from AG E courses and the remainder selected from the department-approved list.

4. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102 or 103. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

5. One elective course must satisfy the general education Composition II requirement.

**HOURS BIOLOGICAL AND NATURAL SCIENCES ELECTIVES**

Choose from:

3	AGRON 322—Forage Crops and Pastures
3	ANSCI 202—Domestic Animal Physiology
3	ANSCI 307—Environmental Aspects of Animal Management
3	BIOL 100—Biological Sciences <sup>1</sup>
3	BIOL 101—Biological Sciences <sup>1</sup>
4	BIOL 104—Animal Biology <sup>1</sup>
3	CHEM 231—Elementary Organic Chemistry
3	CHEM 234—Elementary Organic Chemistry Laboratory
3	ENT 120—Introduction to Applied Entomology
3	GEOI 101—Introduction to Physical Geology
3	GEOI 250—Geology for Engineers
3	HORT 227—Indoor Plant Culture
4	HORT 345—Growth and Development of Horticultural Crops
3	MCBIO 100—Introductory Microbiology <sup>1</sup>
3	MCBIO 101—Introduction to Experimental Microbiology
3	MCBIO 311—Food and Industrial Microbiology
2	MCBIO 312—Techniques of Applied Microbiology
4	PLBIO 100—Plant Biology <sup>1</sup>
4	PHYSI 103—Introduction to Human Physiology
4	SOILS 101—Introductory Soils

1. Students must take at least one of these courses.

**TECHNICAL ELECTIVES**

For a total of 18 hours.

**Agricultural Engineering Technical Electives****HOURS**

3	AG E 236—Machine Characteristics and Mechanisms
3	AG E 271—Transport Phenomena in Food Process Design
3	AG E 277—Design of Architectural Structures <sup>1</sup>
3	AG E 287—Environmental Control for Plants and Animals <sup>1</sup>
3-4	AG E 311—Instrumentation and Measurement <sup>2</sup>
3	AG E 315—Applied Machine Vision
3	AG E 336—Design of Agricultural Machinery <sup>1</sup>
3	AG E 346—Tractors and Prime Movers
3	AG E 356—Soil and Water Conservation Structures <sup>1</sup>
3	AG E 357—Land Drainage <sup>1</sup>
3	AG E 383—Engineering Properties of Food Materials
2	AG E 385—Food and Process Engineering Design <sup>1</sup>
3	AG E 387—Grain Drying and Conditioning
3	AG E 389—Process Design for Corn Milling

1. Students must take at least one of these courses. Includes major design experience.

2. This course is strongly recommended.

**Other Technical Electives**

Choose the remainder of the 18 hours from:

4	C E 201—Engineering Surveying
3	C E 241—Air and Water Quality
3	C E 255—Introduction to Hydrosystems Engineering <sup>1</sup>
3	C E 261—Introduction to Structural Engineering <sup>1</sup>
3	C E 262—Intermediate Structural Analysis
3	C E 263—Behavior and Design of Metal Structure
3	C E 264—Reinforced Concrete Design
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering
3	C E 350—Surface Water Hydrology
4	CHEM 323—Applied Electronics for Scientists
3	CH E 261—Introduction to Chemical Engineering
3	CH E 370—Chemical Engineering Thermodynamics
4	CH E 371—Fluid Mechanics and Heat Transfer
4	CH E 373—Mass Transfer Operations
3	G E 288—Economic Analysis for Engineering Decision-Making
4	M E 270—Fundamentals of Mechanical Design <sup>1</sup>
4	M E 231—Processing and Structure of Materials
3	M E 285—Analysis of Manufacturing Processes
3	M E 307—Solar Energy Utilization
3	M E 313—Computer Controls of Mechanical Engineering Systems
3	MFG E 210—Introduction to Manufacturing Systems
3	MFG E 350—Information Management for Manufacturing Systems
3	Any 200- or 300-level engineering course approved by an adviser.

1. One of these courses is strongly recommended.

Students who want to specialize in a specific area of agricultural engineering can use the following lists as a guide in choosing their technical electives.

**HOURS ELECTRIC POWER AND PROCESSING**

3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurement
3	AG E 315—Applied Machine Vision
3	AG E 336—Engineering Design Projects for Agricultural Industries
3	AG E 383—Engineering Properties of Food Materials
2	AG E 385—Food and Process Engineering Design
3	AG E 387—Grain Drying and Conditioning
3	AG E 389—Process Design for Corn Milling
3	CHEM 323—Electronic Circuits, I
4	ECE 270—Introduction to Circuit Analysis
3	M E 213—Heat Transfer
3	M E 307—Solar Energy Utilization
3	M E 313—Computer Control of Mechanical Engineering Systems

**HOURS****POWER AND MACHINERY**

3	AG E 236—Machine Characteristics and Mechanisms
3-4	AG E 311—Instrumentation and Measurement
3	AG E 315—Applied Machine Vision
3	AG E 336—Engineering Design Projects for Agricultural Industries

3	AG E 346—Tractors and Prime Movers
4	M E 231—Engineering Materials
3	MFG E 210—Introduction to Manufacturing Systems
3	MFG E 350—Information Management for Manufacturing Systems

HOURS	STRUCTURES AND ENVIRONMENT
3	AG E 277—Design of Architectural Structures
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurement
3	AG E 315—Applied Machine Vision
3	AG E 387—Grain Drying and Conditioning
3	C E 261—Introduction to Structural Engineering
3	C E 262—Intermediate Structural Analysis
3	C E 263—Behavior and Design of Metal Structures, I
3	C E 264—Reinforced Concrete Design, I
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering
3	C E 349—Air Resources Engineering
4	M E 308—Fluid Mechanics of Convective Heat Transfer
3	M E 323—Design of Thermal Systems

HOURS	SOIL AND WATER
3	AG E 277—Design of Architectural Structures
3	AG E 287—Environmental Control for Plants and Animals
3-4	AG E 311—Instrumentation and Measurement
3-4	AG E 315—Applied Machine Vision
3	AG E 356—Soil and Water Conservation Structures
3	AG E 357—Land Drainage
4	C E 201—Engineering Survey
3	C E 241—Environmental Quality Engineering
3	C E 255—Introduction to Hydrosystems Engineering
3	C E 264—Reinforced Concrete Design, I
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering
3	C E 350—Surface Water Hydrology

### SPECIALIZATION IN FOOD AND BIOPROCESS ENGINEERING

Food and bioprocess engineering is the application of engineering principles to produce, preserve, process, package, and distribute foods. Food and bioprocess engineers develop, design, and construct new machinery, processes, and plants; they develop and test new products; they preserve and distribute foods; and they manage environmental factors, waste products, and energy. Food and bioprocess engineers participate in nearly every phase of food processing. Graduates are prepared for positions in a variety of industries, including food, pharmaceutical, and biotechnology industries. Job opportunities also exist with the government, universities, and consulting firms. Career possibilities include research and development; project, process, and plant engineering, which can include design, optimization, and construction; technical sales and service; and supervision and management. Those who continue their education in graduate school will have a strong background for further study in the sciences or engineering.

#### First year

HOURS	FIRST SEMESTER
1	AG E 100—Introduction to Agricultural Engineering
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition <sup>1</sup>
17	Total

HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
15	Total

#### Second year

HOURS	FIRST SEMESTER
3	CHEM 231—Elementary Organic Chemistry
1	C S 110—Programming Laboratory (C or Fortran)
3	ECON 103—Microeconomic Principles <sup>2</sup>
3	MATH 242—Calculus of Several Variables
3	MCBIO 100—Introductory Microbiology
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
17	Total

HOURS	SECOND SEMESTER
4	AG E 222—Engineering for Bioprocessing and Bioenvironmental Systems
3	MATH 285—Differential Equations and Orthogonal Functions
2	MCBIO 101—Introductory Experimental Microbiology
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
4	T A M 154—Analytical Mechanics (Statics and Dynamics)
17	Total

#### Third year

HOURS	FIRST SEMESTER
3	CH E 261—Introduction to Chemical Engineering
3	F S 214—Survey of Food Chemistry
3	T A M 221—Elementary Mechanics of Solids
3	Free elective <sup>3</sup>
6	Electives in social sciences or humanities <sup>2,3</sup>
18	Total

HOURS	SECOND SEMESTER
1	AG E 298—Undergraduate Seminar
3	CH E 370—Chemical Engineering Thermodynamics
3	ECE 260—Introduction to Circuit Analysis
3	MCBIO 311—Food and Industrial Microbiology
2	Technical elective <sup>4</sup>
3	Elective in social sciences or humanities <sup>2,3</sup>
15	Total

#### Fourth year

HOURS	FIRST SEMESTER
3	AG E 383—Engineering Properties of Food Materials
4	CH E 371—Fluid Mechanics and Heat Transfer
3	F S 301—Food Processing, I
3	Technical elective <sup>4</sup>
3	Elective in social sciences or humanities <sup>2,3</sup>
16	Total

HOURS	SECOND SEMESTER
2	AG E 299—Undergraduate Thesis
2	AG E 385—Food and Process Engineering Design
4	CH E 373—Mass Transfer Operations
3	F S 302—Food Processing, II
3	Free elective <sup>3</sup>
3	Elective in social sciences or humanities <sup>2,3</sup>
17	Total

1. Students may take SPCOM 111 and 112 in place of RHET 105.

2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102 or 103. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

3. One elective course must satisfy the general education Composition II requirement. Students select technical electives from the approved list for food and bioprocess engineering.

#### Food and Bioprocess Engineering Electives

HOURS	TECHNICAL ELECTIVES
2-4	AG E 282—Food Packaging Technology
1	AG E 284—Scale-Up of Food Processes
3-4	AG E 311—Instrumentation and Measurements
3	AG E 315—Applied Machine Vision
3	AG E 387—Grain Drying and Conditioning
3-4	AG E 389—Process Design for Corn Milling
3	C E 293—Engineering Modeling Under Uncertainty, I E 238—Analysis of Data, or STAT 310/MATH 363—Introduction to Mathematical Statistics and Probability, I
3	CH E 389—Chemical Process Control and Dynamics
3	G E 288—Economic Analysis for Engineering Decision-Making or I E 203—Engineering Economics
4	M E 270—Fundamentals of Mechanical Design
3	M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals
2	MCBIO 312—Techniques of Applied Microbiology



**CURRICULUM IN CERAMIC ENGINEERING**

Department of Materials Science and Engineering  
201 Metallurgy and Mining Building  
1304 West Green Street  
Urbana, IL 61801  
(217) 333-1441  
FAX: (217) 333-2736

**For the Degree of Bachelor of Science in Ceramic Engineering**

The program in ceramic engineering is administered by and is part of the Department of Materials Science and Engineering. Ceramic engineering is one of the principal fields dealing with materials—their properties, behavior, and applications. Some of the ceramic products originate with naturally occurring minerals; others require the synthesis of specific compounds to obtain the desired properties. Major industries such as electronics, steel, glass, aerospace, and construction depend heavily upon ceramic materials and their unique properties, especially at high temperatures. The ceramic engineering curriculum provides a strong background in engineering and applied science with emphasis on understanding material properties and processes. By choice of electives, a student may direct his or her program toward greater emphasis on electronics, bioengineering, glass, or high-temperature materials.

The curriculum requires 128 hours for graduation.

**First year<sup>1</sup>**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENGR 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>2</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	T A M 150—Analytical Mechanics (Statics)
6	Electives in social sciences or humanities <sup>2</sup>
17	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	ECE 260—Introduction to Electric Circuits
3	MATSE 200—Introduction to Materials Science and Engineering
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 221—Elementary Mechanics of Solids
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	IE 238—Analysis of Data
2	MATSE 207—Materials Science and Engineering Lab, I <sup>3</sup>
4	MATSE 301/CHEM 245—Thermodynamics of Materials
4	MATSE 305—Microstructure Characterization
3	Technical elective <sup>4</sup>
16	Total
HOURS	SECOND SEMESTER
3	MATSE 204—Electronic Properties of Materials
2	MATSE 208—Materials Science and Engineering Lab, II <sup>3</sup>
3	MATSE 306—Kinetic Processes in Materials
3	MATSE 306—Thermal-Mechanical Behavior of Materials
3	MATSE 320/CLR E 320—Ceramic Materials and Properties

3	Elective in social sciences or humanities <sup>2</sup>
17	Total

**Fourth year<sup>4</sup>**

HOURS	FIRST SEMESTER
4	MATSE 321/CER E 321—Ceramic Processing and Microstructure Development
2	MATSE 323/CER E 323—Ceramic Engineering Processing Laboratory
5	Technical electives <sup>4</sup>
3	Elective in social sciences or humanities <sup>2</sup>
14	Total
HOURS	SECOND SEMESTER
3	MATSE 322/CER E 322—Process Design
3	Technical elective <sup>4</sup>
6	Free electives
3	Elective in social sciences or humanities <sup>2</sup>
15	Total

1. It is recommended that freshmen with appropriate backgrounds in analytical geometry take the MATH 135, 245 calculus sequence, delaying MATH 225 until the sophomore year, instead of MATH 120, 130, 242. All freshmen are urged to take MATSE 100—Materials Lectures (1 hour).
2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.
3. Satisfies the general education Composition II requirement.
4. Selected from the departmental list of approved technical electives in ceramics.
5. It is recommended that students who intend to continue in graduate school undertake a research project in their senior year.

**CURRICULUM IN CIVIL ENGINEERING**

Department of Civil Engineering  
1114 Newmark Civil Engineering Laboratory  
205 North Mathews Avenue  
Urbana, IL 61801  
(217) 333-8038

**For the Degree of Bachelor of Science in Civil Engineering**

The civil engineering curriculum provides a strong foundation in the engineering sciences and their applications to the planning, design, and construction of bridges, buildings, dams, hydraulic structures, transportation facilities, environmental engineering systems, and many other civil engineering projects that enhance the quality of life. The flexibility of the civil engineering curriculum permits a student to pursue either a broad program representing most of the principal areas of civil engineering or a more specialized program in one or more technical specialty areas.

The curriculum requires 133 hours for graduation.

**PROGRAM REVIEW AND APPROVAL**

Each student's academic program is developed in close consultation with the student's faculty adviser to be in compliance with the general requirements of this curriculum and in consonance with the elaborating guidelines of the department. To ensure that the individual academic programs thus developed do not abuse the substantial degree of electivity that is present in the curriculum, each student's academic program must be reviewed and approved by a standing committee of the faculty before it is accepted as qualifying for the degree of B.S. in civil engineering.

**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
3	Elective in social sciences or humanities <sup>1</sup>
15	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
0	C E 195—Introduction to Civil Engineering
3	MATH 130—Calculus and Analytic Geometry, II
4	PHYS 106—General Physics (Mechanics)
4	RHET 105—Principles of Composition
15	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
2	MATH 225—Introductory Matrix Theory
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
3	T A M 152—Engineering Mechanics, I (Statics)
3	Elective in social sciences or humanities <sup>1</sup>
17	Total
HOURS	SECOND SEMESTER
3	C E 292—Planning, Design, and Management of Civil Engineering Systems
3	C E 293—Engineering Modeling under Uncertainty
3	C S 110—Programming Laboratory
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 212—Engineering Mechanics, II (Dynamics)
3	T A M 221—Elementary Mechanics of Solids
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	MATH 285—Differential Equations and Orthogonal Functions
4	T A M 235—Fluid Mechanics
4	Civil engineering core course <sup>2</sup>
3	Civil engineering core course <sup>2</sup>
3	Mathematics, basic sciences, or engineering sciences elective <sup>3</sup>
17	Total
HOURS	SECOND SEMESTER
3	Civil engineering core course <sup>2</sup>
3	Civil engineering core course <sup>2</sup>
3	Mathematics, basic sciences, or engineering sciences elective <sup>3</sup>
3	Technical elective <sup>4</sup>
6	Electives in social sciences or humanities <sup>1</sup>
18	Total

**Fourth year**

HOURS	FIRST SEMESTER
3	Civil engineering core course <sup>2</sup>
3	Technical elective <sup>4</sup>
3	Technical elective <sup>4</sup>
3	B&T W 252—Technical Communication <sup>3</sup>
3	Elective in social sciences or humanities <sup>1</sup>
3	Free elective <sup>4</sup>
0	C E 295—Professional Practice
18	Total
HOURS	SECOND SEMESTER
4	Technical elective <sup>4</sup>
3	Technical elective <sup>4</sup>
3	Technical elective <sup>4</sup>
3	Elective in social sciences or humanities <sup>1</sup>
3	Free elective <sup>4</sup>
16	Total

1. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

2. Each student's program must include at least five civil engineering core courses, totaling at least 15 hours, selected from the departmentally approved list that follows. Each student is required to select at least 6 hours of departmentally approved electives in mathematics, basic sciences, and engineering sciences (see the *Civil Engineering Undergraduate Student Handbook*).

3. Technical electives must be selected in accord with departmental guidelines (see elaborating statement that follows).

4. This course satisfies the general education Composition II requirement.

6. Subject to constraints imposed by the college, each program may contain up to 6 hours of free electives.

HOURS	CIVIL ENGINEERING CORE COURSES
15-17	Five courses must be selected from among the courses contained in the following list:
4	C E 201—Engineering Surveying
3	C E 210/T A M 224—Behavior of Materials
3	C E 216—Construction Engineering
3	C E 220—Materials for Transportation Facilities
3	C E 241—Environmental Quality Engineering
3	C E 255—Introduction to Hydrosystems Engineering

3	C E 261—Introduction to Structural Engineering
3	C E 280—Introduction to Soil Mechanics and Foundation Engineering

HOURS	TECHNICAL ELECTIVES
35	Civil engineering core courses and technical electives. Technical electives must be selected from departmentally approved lists and be in accordance with guidelines established by the department in each of the following two categories:
12 min	<b>Primary Area of Emphasis:</b> Selected from among the courses offered in one of the technical specialty areas in which instruction is offered in this department (see the following listing).
6 min	<b>Secondary Area of Emphasis:</b> Selected from some technical area other than the student's primary area of emphasis. The secondary emphasis area is commonly another technical specialty in civil engineering; students may broaden their basic interests and competencies by selecting secondary areas that are outside of civil engineering but that relate to and support their areas of primary interests.

It is further required that the courses selected as technical electives, together with those chosen as civil engineering core courses, satisfy the following minimum engineering design content criteria:

16	Cumulative engineering design content in each student's program, where the number of hours of design content in each civil engineering course are specified by the department in listings of course contents. Each student must complete at least one course that requires completion by the student of an integrated design project. The courses that meet this criterion are determined by the department faculty and are identified in the <i>Civil Engineering Undergraduate Student Handbook</i> .
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Explicit guidelines for the selection of technical electives in primary and secondary categories, together with suggested courses in each of the available technical specialty areas in civil engineering, are published by the department in the *Civil Engineering Undergraduate Student Handbook*.

**TECHNICAL EMPHASIS AREAS**

Extensive programs of instruction are available in each of the following technical specialty areas:

- Construction Management
- Construction Materials
- Environmental Engineering
- General Civil Engineering
- Geotechnical Engineering
- Hydrosystems Engineering
- Structural Engineering
- Transportation Engineering

**CURRICULUM IN COMPUTER ENGINEERING**

Department of Electrical and Computer Engineering  
155 Everitt Laboratory  
1406 West Green Street  
Urbana, IL 61801  
(217) 333-2300

**For the Degree of Bachelor of Science in Computer Engineering**

The program in computer engineering is administered by and is part of the offerings of the Department of Electrical and Computer Engineering. The following suggested curriculum indicates one way in which the student may satisfy the requirements for the degree of bachelor of science in computer engineering in eight semesters.

When registering in or graduating from this curriculum, a student must have a grade-point average of at least 3.0 in all electrical and computer engineering courses taken before such registration or graduation. To qualify for registration in the electrical and computer engineering courses specified in the first semester of the junior year of the curriculum in computer engineering, a student must have a combined grade-point average of 3.25 ( $A = 5.0$ ) in the mathematics, physics, computer science, and electrical and computer engineering courses that are required in the freshman and sophomore years of the curriculum.

The curriculum requires 128 hours for graduation. A curriculum revision was pending at the time of publication. See a departmental adviser for more information.

**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
5	MATH 120—Calculus and Analytic Geometry, I <sup>1</sup>
4	RHET 105—Principles of Composition
4	Electives <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	C S 125—Introduction to Computer Science <sup>2</sup>
3	MATH 130—Calculus and Analytic Geometry, II <sup>1</sup>
4	PHYS 106—General Physics (Mechanics) <sup>1</sup>
2	Electives <sup>1</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
1	C S 223—Software Laboratory <sup>1</sup>
3	MATH 213—Introduction to Discrete Mathematics <sup>1</sup>
3	MATH 242—Calculus of Several Variables <sup>1</sup>
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism) <sup>1</sup>
5	Electives <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
2	ECE 244—Electrical Engineering Laboratory, I <sup>1</sup>
4	ECE 270—Introduction to Circuit Analysis <sup>1</sup>
3	ECE 290—Introduction to Computer Engineering <sup>1</sup>
3	MATH 285—Differential Equations and Orthogonal Functions <sup>1</sup>
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter) <sup>1</sup>
16	Total

**Third year**

HOURS	FIRST SEMESTER
3	ECE 229—Introduction to Electromagnetic Fields
2	ECE 249—Digital Systems Laboratory
3	ECE 291—On-Line Computing
3	ECE 340—Solid State Electronic Devices
3	ECE 309—Signal and System Analysis
2	Electives <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
4	C S 225—Data Structures
4	ECE 312—Computer Organization and Design
3	ECE 342—Electronic Circuits
3	MATH 361—Introduction to Probability Theory, I; or ECE 313—Probabilistic Methods of Signal and System Analysis
2	Electives <sup>1</sup>
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
16	Electives <sup>1</sup>
HOURS	SECOND SEMESTER
16	Electives <sup>1</sup>

1. Electives totaling 46 hours are to be selected by the student in consultation with his or her adviser, approved as follows:

- 15 hours of technical electives chosen from a departmentally approved list of technical courses for the computer engineering program.
- Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.
- 13 hours of other electives (including courses to fulfill the campus Composition II requirement); at least 7 hours must be taken for a letter grade.

<sup>1</sup>A 3.25-rule course.

**CURRICULUM IN COMPUTER SCIENCE**

Department of Computer Science  
3270 Digital Computer Laboratory  
1304 West Springfield Avenue  
Urbana, IL 61801  
(217) 333-4428

**For the Degree of Bachelor of Science in Computer Science**

This curriculum is offered by the Department of Computer Science for students seeking a broad and deep knowledge of the theory, design, and application of digital computers and information processing techniques. The first two years are spent on basic work in mathematics, physics, and an introduction to the fundamental areas of computer science: computing, programming, the organization of digital machines, hardware, numerical analysis, artificial intelligence, and theory of computation. The third year completes the work in basic computer science and requires electives to broaden the background of the student. During the fourth year, the student is encouraged to deepen his or her understanding of topics of particular interest and ability.

To qualify for registration in the computer science courses specified in the first semester of the junior year, a student must have a combined grade-point average of 3.25 (A = 5.0) in the mathematics, physics, and computer science courses that are required in the freshman and sophomore years.

In order to graduate or continue in the computer science curriculum, a student must have a 3.0 technical grade-point average including the following courses:

All computer science courses  
MATH 120, 130, and 242; or MATH 135 and 245  
MATH 225 or 315  
MATH 361/STAT 351 or MATH 363/STAT 310

Any mathematics courses taken to satisfy the 300-level course requirements of the curriculum

The curriculum requires 122 hours for graduation.

**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
5	MATH 120—Calculus and Analytic Geometry, I
6	Electives <sup>1</sup>
15	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	C S 125—Introduction to Computer Science
2	C S 173—Discrete Mathematical Structures
3	MATH 130—Calculus and Analytic Geometry, II
3	RHET 105—Principles of Composition
16	Total

**Second year**

HOURS	FIRST SEMESTER
1	C S 223—Software Laboratory
3	C S 273—Introduction to Theory of Computation
3	MATH 242—Calculus of Several Variables
4	PHYS 106—General Physics (Mechanics)
5	Electives <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
4	C S 225—Data Structures and Software Principles
3	C S 231—Computer Architecture, I
2	MATH 225—Introductory Matrix Theory
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	Electives <sup>1</sup>
15	Total

**Third year**

HOURS	FIRST SEMESTER
3	C S 232—Computer Architecture, II
3	C S 281—Introduction to Computer Hardware
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	Goal-directed sequence <sup>1</sup>
2	Other electives <sup>1</sup>
15	Total
HOURS	SECOND SEMESTER
3	C S 257—Numerical Methods
3	MATH 361—Introduction to Probability Theory, I
3	Goal-directed sequence <sup>1</sup>
6	Other electives <sup>1</sup>
15	Total



## Fourth year

HOURS	FIRST SEMESTER
9	Computer science electives
3	Goal-directed sequence <sup>2</sup>
3	Other electives <sup>1</sup>
15	Total
HOURS	SECOND SEMESTER
9	Computer science electives
3	Goal-directed sequence <sup>2</sup>
3	Other electives <sup>1</sup>
15	Total

1. One/elective course must satisfy the general education Composition II requirement. See the section on English requirements on pages 38 and 39.
2. A sequence of courses directed toward the study of a specific problem area related to computer use. This sequence must be approved by the student's adviser.

**Computer Science Electives**

At least six 300-level computer science courses must be selected, according to the following three rules:

1. Three courses must be selected, one from each of the following three groups:

HOURS	SOFTWARE
3	C S 323—Operating Systems Design, C S 325—Programming Language Principles
HOURS	ARCHITECTURE
3	C S 331—Microprocessor Systems, C S 333—Computer System Organization
HOURS	FOUNDATIONS
3	C S 373—Combinatorial Algorithms, C S 375—Automata, Formal Languages, and Computational Complexity

2. A fourth and fifth course must be selected from any two of the following three groups:

HOURS	NUMERICAL ANALYSIS
3	C S 350—Numerical Analysis: A Comprehensive Introduction, C S 358—Numerical Linear Algebra, C S 359—Numerical Approximation and Ordinary Differential Equations
HOURS	HARDWARE
3	ECE 325/C S 335—Introduction to VLSI System Design; C S 363—Integrated Circuit Logic Design, C S 384—Computer Data Acquisition Systems, C S 389—Advanced Computer Circuits
HOURS	ARTIFICIAL INTELLIGENCE
3	C S 348—Introduction to Artificial Intelligence

3. A sixth course must be selected from any one of the six groups listed previously or from the following additional courses. This sixth course must be selected so that there are two courses in one of the six groups; i.e., the sixth course must be from one of the five groups chosen to meet requirements 1 and 2.

HOURS	SOFTWARE
3	C S 311—Database Systems, C S 318—Computer Graphics, C S 326—Computer Construction, C S 327—Software Engineering, C S 328—Computer Networks and Distributed Systems
HOURS	ARCHITECTURE
3	C S 338—Communications Networks for Computers, ECE/C S 362—Logic Design
HOURS	FOUNDATIONS
3	MATH 314—Introduction to Mathematical Logic, MATH 317—Introduction to Abstract Algebra, C S 376—Program Verification
HOURS	NUMERICAL ANALYSIS
3	C S 355—Numerical Methods for Partial Differential Equations, C S/MATH 383—Linear Programming, MATH 285—Differential Equations and Orthogonal Functions, MATH 341—Differential Equations
HOURS	HARDWARE
3	C S 339—Computer-Aided Design for Digital Systems
HOURS	ARTIFICIAL INTELLIGENCE
3	C S 341—Mechanized Mathematical Inference, C S 342—Computer Inference and Knowledge Acquisition, C S 346—Pattern Recognition and Machine Learning, C S 347—Knowledge-Based Programming

**Mathematics Requirements**

HOURS	
10-11	Choose from: MATH 120—Calculus and Analytic Geometry, I; MATH 130—Calculus and Analytic Geometry, II; and MATH 242—Calculus of Several Variables MATH 135—Calculus, and MATH 245—Calculus, II
2-3	MATH 225—Introductory Matrix Theory, or MATH 315—Linear Transformations and Matrices
3-4	MATH 361/STAT 351—Introduction to Probability Theory, I; or MATH 363/STAT 310—Introduction to Mathematical Statistics and Probability, I

**Humanities and the Social Sciences**

Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

**Free Electives**

A total of 7 to 10 semester hours is designated as free electives.

**HONORS**

For graduation with highest honors, a student must complete at least 2 hours of C S 290—Individual Study and must obtain the favorable recommendation of the C S 290 instructor(s), in addition to satisfying all other requirements of the College of Engineering.

**CURRICULUM IN ELECTRICAL ENGINEERING**

Department of Electrical and Computer Engineering  
155 Everitt Laboratory  
1406 West Green Street  
Urbana, IL 61801  
(217) 333-2300

**For the Degree of Bachelor of Science in Electrical Engineering**

The following suggested curriculum is one way in which the student may satisfy, in eight semesters, all of the conditions below. Besides the 68 hours of specific, required courses, it lists certain electives as suggested courses for students who desire a moderate level of specialization. These electives may be replaced with other courses that satisfy the conditions below.

When registering in or graduating from this curriculum, a student must have a grade-point average of at least 3.0 ( $A = 5.0$ ) in all electrical and computer engineering courses taken before such registration or graduation. To qualify for registration in the electrical and computer engineering courses shown in the third (junior) year of the curriculum in electrical engineering, a student must have completed, with a combined grade-point average of 3.25, the mathematics, physics, computer science, and electrical and computer engineering courses that are shown in the first (freshman) and second (sophomore) years of the curriculum.

The curriculum requires 128 hours for graduation. The electrical engineering curriculum includes the following requirements:

- A. 68 hours of specific required courses.
- B. 2 hours from two elective electrical and computer engineering laboratory courses (to be selected by the student in consultation with his or her adviser from the departmentally approved list).
- C. 13 hours of electrical and computer engineering electives (to be selected by the student in consultation with his or her adviser from the departmentally approved list).
- D. 21 hours of technical electives (to be selected by the student in consultation with his or her adviser from the departmentally approved list).
  - (1) At least 12 hours from areas outside electrical and computer engineering.
  - (2) At least 10 hours from 300-level courses.
  - (3) At least 9 hours from courses offered by the College of Engineering.
  - (4) At least one course from the departmentally approved list of engineering science electives outside of electrical and computer engineering.
  - (5) At least one course from the departmentally approved list of advanced mathematics courses.
- E. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in

fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

- F. 6 hours of free electives (to be selected by the student in consultation with his or her adviser in accordance with the regulations of the college).

(1) One elective course must satisfy the general education Composition II requirement. See the section on English requirements on pages 38 and 39.

A curriculum revision was pending at the time of publication. See a departmental adviser for more information.

#### First year<sup>1</sup>

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
3	Elective in social sciences or humanities <sup>2</sup>
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
4	PHYS 106—General Physics (Mechanics)
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	RHET 133—Principles of Composition
16	Total

#### Second year

HOURS	FIRST SEMESTER
1	C S 110—Programming Laboratory
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
3	SPCOM 101—Principles of Effective Speaking
6	Electives in social sciences or humanities <sup>2</sup>
17	Total
HOURS	SECOND SEMESTER
2	ECE 244—Electrical Engineering Laboratory, I
4	ECE 270—Introduction to Circuit Analysis
3	ECE 290—Introduction to Computer Engineering
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
16	Total

#### Third year

HOURS	FIRST SEMESTER
3	ECE 229—Introduction to Electromagnetic Fields
3	ECE 309—Signal and System Analysis
3	ECE 340—Solid State Electronic Devices
3	MATH 280—Advanced Calculus
3	ME 209—Thermodynamics and Heat Transfer
15	Total
HOURS	SECOND SEMESTER
3	ECE 342—Electronic Circuits
1	ECE 343—Electronic Circuits Laboratory
3	ECE 350—Lines, Fields, and Waves
3	ECE 313—Probabilistic Methods of Signal and System Analysis
3	ECE 330—Electromechanics
3	MATH 315—Linear Transformations and Matrices
16	Total

#### Fourth year

HOURS	FIRST SEMESTER
1	Electrical and computer engineering laboratory <sup>3</sup>
6	Electrical and computer engineering electives <sup>4</sup>
3	C S 257—Numerical Methods
3	PHYS 383—Atomic Physics and Quantum Theory
3	Elective in social sciences or humanities <sup>2</sup>
16	Total
HOURS	SECOND SEMESTER
2	ECF 345—Senior Design Project Laboratory
1	Electrical and computer engineering laboratory <sup>3</sup>
7	Electrical and computer engineering electives <sup>4</sup>
6	Electives in social sciences or humanities <sup>2</sup>
16	Total

1. All courses shown without superscript letters are required
2. Elective to be selected—see section E above
3. Suggested free elective—see section F above
4. Suggested technical elective—see section D above
5. Elective to be selected—see section B above
6. Elective to be selected—see section C above

## CURRICULUM IN ENGINEERING MECHANICS

Department of Theoretical and Applied Mechanics

216 Talbot Laboratory  
104 South Wright Street  
Urbana, IL 61801  
(217) 333-2322  
FAX: (217) 244-5707

### For the Degree of Bachelor of Science in Engineering Mechanics

This curriculum, offered by the Department of Theoretical and Applied Mechanics, is intended primarily for students pursuing careers in research and development in mechanical, civil, aerospace, and related engineering fields. The program also provides excellent preparation for graduate study in many different engineering disciplines.

Because of the diversity of modern research and development problems—especially in such newly emerging areas as energy development, materials engineering, space technology, and computer-based design—the curriculum is organized around a core that emphasizes a broad education covering the basic areas of science and engineering mechanics that are fundamental to all branches of engineering. In addition, six secondary field options—engineering science, experimental mechanics, computer applications, materials (metals), materials (polymers and composites), and biomechanics—allow the student to concentrate on areas of special interest. Any student with special educational goals may modify the curriculum by petition with the approval of the department and the College of Engineering.

The curriculum requires 128 hours for graduation. A curriculum revision was pending at the time of publication. See a departmental adviser for further information.

#### First year

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture <sup>1</sup>
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>2</sup>
16	Total

#### Second year

HOURS	FIRST SEMESTER
3	MATH 242—Calculus of Several Variables
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
3	T A M 152—Engineering Mechanics, I (Statics)
3	Elective in social sciences or humanities <sup>2</sup>
15	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions, or MATH 341—Differential Equations
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 212—Engineering Mechanics, II (Dynamics)
3	T A M 221—Elementary Mechanics of Solids
3	Elective in social sciences or humanities <sup>2</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
3-4 <sup>1</sup>	ECE 260—Introduction to Electric Circuits, or ECE 270—Introduction to Circuit Analysis
3	MATH 280—Advanced Calculus, or MATH 247—Intermediate Analysis
4	T A M 224—Behavior of Materials
4	T A M 235—Fluid Mechanics
3	Elective in social sciences or humanities <sup>2</sup>
17-18	Total
HOURS	SECOND SEMESTER
3	M E 205—Thermodynamics
3	Secondary field elective
2-3	Secondary field elective
3	Technical elective <sup>4</sup>
3	Elective in social sciences or humanities <sup>2</sup>
14-15	Total

**Fourth year**

HOURS	FIRST SEMESTER
3	T A M 293—Research and Design Project <sup>4</sup>
3	T A M 392—Design and Analysis in Engineering Practice
3	T A M 351—Fundamental Concepts of Deformable Body Mechanics
2-3	Secondary field elective
3	Elective in social sciences or humanities <sup>2</sup>
3	Free elective
16-17	Total
HOURS	SECOND SEMESTER
4	T A M 294—Research and Design Project <sup>4</sup>
3	Secondary field elective
3	Secondary field elective
3	Technical elective <sup>4</sup>
3	Free elective
16	Total

1. A companion 1-hour course T A M 199U—Mechanics in the Modern World is recommended.
2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.
3. The extra hour of ECE 270 can be used as a technical or free elective.
4. The list of technical courses approved by the College of Engineering should be consulted.
5. Satisfies the general education Composition II requirement.

**Secondary Field Options**

The secondary field options consist of 14 or 15 hours of engineering and engineering-related courses, as indicated below for the six options. In the junior year, each student prepares a program of study in consultation with a faculty adviser. At least 8 hours of combined engineering design and engineering science must be included among the secondary field courses. The departmental office has a listing of the specific categories of each course. Substitutions for specific courses in an option can be made to meet the particular needs of a student. The program of study is then submitted to the chief adviser of the department for approval.

HOURS	EXPERIMENTAL MECHANICS
3-5	M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
6	T A M 326—Experimental Stress Analysis
1-2	Theoretical and applied mechanics (any 300-level courses)
	Technical elective <sup>5</sup>
HOURS	COMPUTER APPLICATIONS
3-5	Electrical and computer engineering (any 300-level course), M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
3	C S 257—Numerical Methods
3	C S 358—Numerical Linear Algebra
3	Computer science (any 300-level course), or M E 345—Introduction to Finite Element Analysis
	Theoretical and applied mechanics (any 300-level course)
HOURS	MATERIALS ENGINEERING (METALS)
3-5	Electrical and computer engineering (any 300-level course), M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
3	T A M 324—Flow and Fracture of Structural Metals
3	MATSE 302—Kinetic Processes in Materials, or MATSE 344—Welding and Joining Processes

3	T A M 327—Deformation and Fracture of Polymeric Materials
2-3	Theoretical and applied mechanics (any 300-level course)
HOURS	MATERIALS ENGINEERING (POLYMERS AND COMPOSITES)
3-5	Electrical and computer engineering (any 300-level course), M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
3	T A M 324—Flow and Fracture of Structural Metals
3	T A M 328—Mechanical Behavior of Composite Materials
3	T A M 327—Deformation and Fracture of Polymeric Materials
3 <sup>2</sup>	CHEM 231—Elementary Organic Chemistry
3 <sup>2</sup>	MATSE 352—Polymer Characterization Laboratory
3 <sup>2</sup>	Additional course from polymer science and engineering option list
HOURS	BIOMECHANICS
3-5	Electrical and computer engineering (any 300-level course), M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
3	CHEM 231—Elementary Organic Chemistry
3	PHYSL 301—Cell and Membrane Physiology
2	PHYSL 303—Cell and Membrane Physiology Laboratory
3	Additional college bioengineering/biology core courses
1 or 2 <sup>1</sup>	Other college bioengineering/biology core courses
0-4 <sup>1</sup>	Bioengineering or related courses
HOURS	ENGINEERING SCIENCE
3-5	Electrical and computer engineering (any 300-level course), M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals; or PHYSICS 343/CHEM 323—Electronic Circuits, I
8	Theoretical and applied mechanics (any 300-level course)
3	Mathematics (any 300-level course)

1. Students should consult the list of technical courses approved by the College of Engineering.
2. Required for the polymer science and engineering option in engineering but not for the materials engineering (polymers and composites) option in engineering mechanics.
3. Required for the bioengineering option in engineering but not for the biomechanics option in engineering mechanics.

**CURRICULUM IN ENGINEERING PHYSICS\*****Department of Physics**

231 Loomis Laboratory

1110 West Green Street

Urbana, IL 61801-3080

(217) 333-3114

FAX: (217) 333-9819

EMAIL: undergrad-info@physics.uiuc.edu

**For the Degree of Bachelor of Science in Engineering Physics**

This curriculum provides broad, thorough training in fundamental physics and mathematics to prepare students for graduate study in physics and related fields and for research and development positions in industrial and governmental laboratories. For the first two years, the curriculum follows the common engineering program. In the last two years, the emphasis is on advanced courses in physics and mathematics, with an allowance for electives.

When registering for advanced undergraduate courses in physics, a student continuing in or transferring to this curriculum must have (1) a grade-point average of 3.5 ( $A = 5.0$ ) in all University subjects exclusive of military science, physical education, and band; (2) a grade-point average of at least 3.5 in all 100- and 200-level courses in mathematics and physics; and (3) a separate grade-point average of at least 3.5 for all 300-level mathematics and physics courses. This grade-point average must include at least two physics courses. A transfer student must have a corresponding record in the institution from which he or she has transferred and must maintain such status at the UIUC.

Students with proficiency or Advanced Placement (AP) credit for MATH 120 are strongly encouraged to enroll in MATH 130 and PHYSICS 106 for the first semester. Entering freshmen should enroll for the fall term in PHYSICS 100 (under development as PHYSYS 99B), where they will meet with faculty members and other physics majors.

The illustrative syllabus that follows shows the required courses in a four-year program. A minimum of 128 hours is required for graduation. However, many students take these courses in a different order and take additional courses at their discretion. The program includes



37 hours of electives, 18 of which must be chosen from the College of Engineering list of approved electives in the social sciences and humanities. The remaining 19 hours include 6 hours of free electives and 13 hours of technical or nontechnical electives, of which at least 6 hours must be nontechnical and at least 4 technical. For this curriculum, technical electives are defined as most courses within the areas of physics, mathematics, astronomy, chemistry, computer science, and engineering. Among the 37 elective hours, one course must satisfy the general education Composition II requirement. (See the section on English requirements on pages 38 and 39.)

The curriculum requires 128 hours for graduation.

\*See also the College of Liberal Arts and Sciences curriculum in physics (page 153) and the curriculum in science and letters with a major in physics (page 142).

#### First year

HOURS	FIRST SEMESTER <sup>1</sup>
1	CHEM 101—General Chemistry <sup>2</sup>
3	G E 103—Engineering Graphics and Design <sup>3</sup>
5	MATH 120—Calculus and Analytic Geometry, I <sup>4,5</sup>
4	RHET 105—Principles of Composition, or RHET 108—Forms of Composition <sup>6</sup>
16-17 <sup>1</sup>	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry <sup>2</sup> (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II <sup>5</sup>
4	PHYS 106—General Physics (Mechanics) <sup>4</sup>
5-6	Electives in social sciences or humanities, or elective satisfying Composition II requirements <sup>7</sup>
16-18 <sup>1</sup>	Total

#### Second year

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
7-9	Electives in social sciences or humanities <sup>7</sup>
16-18 <sup>1</sup>	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions <sup>1</sup>
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	PHYS 225—Intermediate Mechanics and Relativity, I
5-7	Electives in social sciences or humanities <sup>7</sup>
16-18 <sup>1</sup>	Total

#### Third year

HOURS	FIRST SEMESTER
3	MATH 280—Advanced Calculus
3	MATH 301—Classical Physics Lab <sup>10</sup>
3	PHYS 326—Intermediate Mechanics and Relativity, II
3	PHYS 335—Electromagnetic Fields and Sources, I <sup>11</sup>
4-6	Electives <sup>7</sup>
16-18 <sup>1</sup>	Total
HOURS	SECOND SEMESTER
3	MATH 315—Linear Transformations and Matrices <sup>12</sup>
3	PHYS 336—Electromagnetic Fields and Sources, II
5	PHYS 343—Electronic Circuits, I (spring only)
4	PHYS 386—Atomic Physics and Quantum Mechanics, I <sup>13</sup>
15 <sup>1</sup>	Total

#### Fourth year

HOURS	FIRST SEMESTER
5	PHYS 303—Modern Experimental Physics, or PHYS 344—Electronic Circuits, II (fall only)
4	PHYS 371—Light
4	PHYS 387—Atomic Physics and Quantum Mechanics, II
3-4	Electives <sup>7</sup>
16-17 <sup>1</sup>	Total
HOURS	SECOND SEMESTER
4	PHYS 361—Thermodynamics and Statistical Mechanics
13-14	Electives <sup>7</sup>
17-18 <sup>1</sup>	Total

1. Entering freshmen are expected to enroll for the fall term in PHYS 100 (under development as PHYS 199B), where they will meet with other physics majors, learn about the University, and explore physics as a profession.

2. CHEM 107, 109, and 108, 110 may be substituted for CHEM 101 and 102 by students who desire a more rigorous chemistry sequence.

3. G E 103, a required course, can be delayed to the last year to take advantage of the latest design software before entering into professional activities or graduate studies.

4. Students with proficiency or advanced placement (AP) credit in MATH 120 are strongly encouraged to enroll in MATH 130 and PHYS 106 for the first semester.

5. An alternate sequence is MATH 121, 131, although MATH 120, 130 is preferred because more material is presented in MATH 120 than in MATH 121.

6. SPCOM 111 and 112 also fulfill the graduation requirement in rhetoric; surplus hours will be counted as electives.

7. See the introductory paragraph above on how electives are distributed. Note that one course, taken as early as possible, must satisfy the general education Composition II requirement.

8. Minimum hours per semester is 12 hours; maximum is 18 hours (19 or more with the dean's permission).

9. MATH 341 and 342 may replace MATH 285; surplus hours will be counted as technical electives.

10. PHYS 301 can be taken any term after PHYS 225 is completed.

11. If necessary, PHYS 335 can be taken a semester later. PHYS 335 requires credit or concurrent registration in MATH 280.

12. MATH 315 should not be replaced with MATH 225. The material in MATH 315 is needed for PHYS 386.

#### Applied Physics Options

In consultation with his or her adviser, a student may elect an applied physics option. These options involve subjects related to physics that are of an applied nature and allow the student to focus on a specialized area. A student must register for an option in the physics undergraduate records office, where a list of approved courses is available. Planning for the option should begin during the sophomore year. Courses in these options may be taken under the various elective categories, or they may be substituted for certain advanced physics courses approved by the adviser. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities. The options are as follows:

Applied Nuclear Physics  
Bioengineering (see page 86)  
Fluids and Plasmas  
Optical Physics and Lasers  
Physical Electronics  
Systems Analysis and Control Theory

#### CURRICULUM IN GENERAL ENGINEERING

Department of General Engineering  
117 Transportation Building  
104 South Mathews Avenue  
Urbana, IL 61801  
(217) 333-2730  
FAX: (217) 244-5705  
EMAIL: programs@ge.uiuc.edu

#### For the Degree of Bachelor of Science in General Engineering

The general engineering curriculum provides a comprehensive program in the basic sciences, engineering sciences, and engineering design. The program was developed to give a broad background in mechanics and structures, control systems, and decision-making that is supportive of a systems approach to engineering. It is enriched by the use of computer-aided engineering tools and course experiences involving a design-build-test-evaluate ("closed-loop") cycle that echoes the real world. This learning culminates in an internship-like, senior-level project course in which student teams solve real-world problems posed by external sponsors. The curriculum also incorporates specialized study in an approved secondary field of choice (described below) that provides virtually unlimited opportunity and flexibility to tailor the curriculum to one's interests. The College of Engineering's manufacturing and bioengineering options and international minor may be incorporated into the curriculum through the secondary field and other electives. Through the capstone project course and a senior seminar, the curriculum teaches the life skill necessary for success in the professional world. Overall, this curriculum prepares students for graduate study and positions of managerial and technical leadership in careers in the public and private sectors.

The curriculum requires 131 hours for graduation. It is effective fall 1994 for first-year students.

**First year**

HOURS	FIRST SEMESTER <sup>1</sup>
4	CHEM 101—General Chemistry
3	ECON 102—Microeconomic Principles, or ECON 103— Macroeconomic Principles (General education elective) <sup>2</sup>
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
15	Total
HOURS	SECOND SEMESTER
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
4	RHET 105—Principles of Composition
3	Elective in social sciences or humanities <sup>2</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	T A M 150—Analytical Mechanics (Statics)
6	Electives in social sciences or humanities <sup>2</sup>
17	Total
HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 212—Engineering Mechanics, II (Dynamics)
3	T A M 221—Elementary Mechanics of Solids
3	Elective in social sciences or humanities <sup>2</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	G E 221—Introduction to General Engineering Design
3	G E 222—Simulation and Analysis of Dynamic Systems
1	G E 224—Dynamic Systems Laboratory
3	G E 288—Engineering Economy and Operations Research
3	ECE 270—Introduction to Circuit Analysis
3	Secondary field elective <sup>3</sup>
17	Total
HOURS	SECOND SEMESTER
2	ECE 244—Electrical Engineering Laboratory, I
1	G E 225—Instrumentation and Test Laboratory
1	G E 226—Laboratory for Data Analysis
4	G E 232—Engineering Design Analysis
3	G E 289—Probabilistic Decision-Making
3	G E 323—State Space Design Methods in Control
3	Secondary field elective <sup>3</sup>
17	Total

**Fourth year**

HOURS	FIRST SEMESTER
3	G E 292—Engineering Law <sup>4</sup>
3	M E 209—Thermodynamics and Heat Transfer
4	T A M 235—Fluid Mechanics
3	Secondary field elective <sup>3</sup>
3	Design elective <sup>3</sup>
16	Total
HOURS	SECOND SEMESTER
0	G E 291—General Engineering Seminar
2	G E 342—Project Design, I
2	G E 343—Project Design, II
3	Secondary field elective <sup>3</sup>
3	Elective in social sciences or humanities <sup>2</sup>
6	Free electives
16	Total

1. It is recommended that freshmen with appropriate backgrounds in analytical geometry take the MATH 135, 245 calculus sequence instead of MATH 120, 130, 242, delaying MATH 225 to the sophomore year.

2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102 or 103. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

3. To be selected from lists established by the department or by petition to the department.
4. Satisfies the general education Composition II requirement.
5. To be selected from the list of design electives as established by the department.

## SECONDARY FIELDS OF CONCENTRATION FOR THE UNDERGRADUATE CURRICULUM IN GENERAL ENGINEERING

The secondary field requires a minimum of 12 hours of courses.

Secondary fields are of two types: preapproved and customized. Preapproved fields have designated titles and a preapproved list of courses from which, in general, any 12 credit hours may be selected. However, substitutions of other courses may be requested via a petition form submitted to the department. Customized secondary fields may be created to fulfill student needs in areas beyond the preapproved ones. For customized secondary fields, a suitable title and all the courses must be petitioned for acceptance to the department. Approval is based on the merit of the secondary field and the coherence of the courses within it relative to the student's goals.

### Preapproved Secondary Fields

Preapproved secondary fields are listed below. This list is subject to change. Check the departmental document for current fields, courses, course titles, and credit hours.

#### AUTOMOTIVE ENGINEERING

ECE 386  
G E 324, 389  
M E 303, 312, 313, 331, 336, 388  
T A M 311, 314

#### BIOENGINEERING<sup>1</sup> (ENGINEERING OPTION)

BIOCH 350  
BIOEN 120, 308  
BIOPH 301  
CHEM 231, 234  
ECE/BIOEN 314, 315, 375  
G E 293 (MHM)  
KINES 255  
M E 375  
PHYS 103, 301, 302, 303, 304  
V B/BIOEN 306

1. Students fulfilling the College of Engineering option in bioengineering will automatically satisfy the bioengineering secondary field requirement.

#### CIVIL ENGINEERING STRUCTURES

C E 263, 264, 280, 365, 398 (SA)  
MATH 280, 315

#### COMPUTER-AIDED DESIGN AND MANUFACTURING (CAD/CAM)

C S 225<sup>1</sup> (or 300<sup>1</sup>), 318<sup>1</sup>  
C S/ECE 348  
G E 393 (YSK)<sup>3</sup>, 493 (YSK)<sup>3</sup>  
I E 350  
MFG E 210  
M E 285<sup>3</sup>, 366

1. Recommended course.
2. Undergraduates may take this course.

#### COMPUTER SCIENCE<sup>1</sup>

C S 173<sup>1</sup>, C S 225<sup>1</sup> (or 300<sup>1</sup>), any other 200- or 300-level courses

1. Students with a strong interest in courses other than C S 300-304 are encouraged to take C S 125 in place of C S 101 and/or C S 223 in place of C S 110.
2. Recommended course.

#### CONTROL SYSTEMS

C S 225  
ECE 309, 313, 386, 390  
G E 324, 389  
MFG E 330  
MATH 361/STAT 351  
M E 312, 313, 388

#### ENGINEERING ADMINISTRATION

ACCY 201, 202  
ADV 281  
B ADM 210, 314, 315, 321, 323, 351, 382, 384  
B&T W 253, 261  
ECON 300, 301  
FIN 254

**GEOG/B ADM 205**

I E 238, 335, 336, 373, 386

I E/G E 334

MFG E 210, 320, 350

M E 393 (NB1, NB2)

POL S/ACCY/B ADM/SOC S 300

PSYCH 258/AVI 258/I E 248

PSYCH 356/AVI 356/I E 346

**ENGINEERING MARKETING**

ACCY 201, 202

B ADM 202, 210, 320, 337, 344, 360, 370, 380, 382

B&amp;T W 253, 261

I E 238

M E 393 (NB1, NB2)

PSYCH 245

**ENVIRONMENTAL QUALITY**

AG EC/ENVST/FOR 317

C E 241, 336, 337, 338, 340, 341, 342, 343, 344, 345, 346, 347, 349

EEE 105

ENVST 236/AGRON 236/CHLTH 266

ENVST 331/CHLTH 361

ENVST/PSYCH 372

FOR/AGRON/ENVST 319

M E 303

NUC E/ENVST 241

**MANUFACTURING ENGINEERING<sup>1</sup>**MFG E 210, 320, 330, 340, 350<sup>2</sup>

Other courses must be chosen from the approved lists for computer-aided design and manufacturing (CAD/CAM), operations research, and control systems.

- Students fulfilling the College of Engineering option in manufacturing engineering will automatically satisfy the manufacturing engineering secondary field requirement.
- At least two of these MFG E courses must be chosen.

**NONDESTRUCTIVE TESTING AND EVALUATION**

C S 346

C S/ECE 348

ECE 309, 374

G E 324, 389, 393 (HRM)<sup>2</sup>G E 334/I E 334<sup>1</sup>

I E 238

M E 285, 345

T A M 224<sup>1</sup>, 314, 326

T A M/ECE 373

- Required course.
- Recommended course.

**OPERATIONS RESEARCH**

G E/I E 334

I E 238, 350, 363, 370, 373, 386

MATH 363/STAT 310

MFG E 320, 350

**QUALITY CONTROL**

B ADM 315

I E 238, 335, 336, 373

I E/G E 334

M E 285

STAT 310/MATH 363

STAT 311/MATH 364

**REHABILITATION ENGINEERING**

CSB 234, 322

ECE/BIOEN 314, 315

G E 293 (MGS), 393 (MS1, MS2, MS3, MS4)

REHAB 301, 302, 340, 344

**ROBOTICS**

C S 346, 347, 375

ECF 291, 375, 386, 390

ECF/C S 348

G E 293 (MWS), 324, 389, 493 (YSK)

I E/G F 334

M E 285, 313, 342, 375

**THEORETICAL AND APPLIED MECHANICS**

M E 345

T A M 224, 311, 314, 324, 326, 327, 328, 335, 351, 360

**Customized Secondary Fields**

The following list contains examples of customized secondary fields that can or have been petitioned.

Accountancy	Acoustics
Agricultural Engineering	Agronomy
(or other engineering discipline)	Animal Science
Applied Mathematics	Applied Statistics
Astronomy	Audio Engineering
Aviation	Biology
Chemistry	Cinematography
Circuit Analysis and Design	Construction
Economics	Energy
Finance	Finite Element Analysis
Fluid Dynamics	Food Science
Geography	Heat Transfer
History of Engineering, Science,	Human Factors
and Technology	Industrial Design
Industrial Psychology and	Insurance and Actuarial Science
Organizational Behavior	International Business
Japanese (or any other language)	Landscape Architecture
Machine Design	Meteorology
Mining and Geological Engineering	Philosophy
Political Science	Power Systems
Pre-Dentistry	Pre-Law
Pre-Medicine	Pre-Veterinary Science
Railroad Engineering	Solar Energy
Technical Journalism	Telecommunications
Thermal Science	Thermodynamics Vehicle Dynamics

**CURRICULUM IN INDUSTRIAL ENGINEERING****Department of Mechanical and Industrial Engineering****154 Mechanical Engineering Building**

1206 West Green Street

Urbana, IL 61801

(217) 333-0366

FAX: (217) 244-6534

**For the Degree of Bachelor of Science in Industrial Engineering**

Industrial engineering is concerned with the design, improvement, and installation of integrated systems of people, materials, and equipment, drawing upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems. Industrial engineers are in demand by a wide variety of industries ranging from manufacturing, transportation, service, health, and government.

The curriculum requires 130 hours for graduation. A curriculum revision was pending at the time of publication. See the departmental adviser (154 MEB, 244-0458) for more information.

**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
1	M E 199—Undergraduate Open Seminar
4	RHET 105—Principles of Composition
17	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>1</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
4	T A M 154—Analytical Mechanics (Statics and Dynamics)
3	Elective in social sciences or humanities <sup>1</sup>
16	Total



HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	MATH 285—Differential Equations and Orthogonal Functions
3	M E 209—Thermodynamics and Heat Transfer
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 221—Elementary Mechanics of Solids
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	I E 230—Analysis of Data
3	I E 248/PSYCH 258—Introduction to Human Factors
3	I E 385—Operations Research, I
4	M E 231—Engineering Materials
3	Elective in social sciences or humanities <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
4	ECE 270—Introduction to Circuit Analysis
3	I E 210—Introduction to Operations Research
3	I E 232—Methods-Time Analysis
0	I E 291—Seminar
3	M E 285—Design for Manufacturability
3	Elective in social sciences or humanities <sup>1</sup>
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
3	I E 235—Industrial Quality Control
3	I E 261—Facilities Planning and Design
3	I E 262—Production Planning and Control
3	Technical elective <sup>2</sup>
3	Elective in social sciences or humanities <sup>1</sup>
2	Free elective
17	Total
HOURS	SECOND SEMESTER
3	I E 280—Senior Industrial Design Project <sup>3</sup>
3	I E 337—Economic Foundations of Quality Systems
6	Technical electives <sup>2</sup>
3	Free elective
15	Total

1. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 or later must also satisfy the campus general education requirements for social sciences and humanities.

2. A total of 9 hours of technical electives from a departmentally approved list is required. A limit of 3 hours of this total can be from undergraduate independent study courses.

3. Satisfies the general education Composition II requirement.

**CURRICULUM IN MATERIALS SCIENCE AND ENGINEERING**

Department of Materials Science and Engineering  
201 Metallurgy and Mining Building  
1304 West Green Street  
Urbana, IL 61801  
(217) 333-1441  
FAX: (217) 333-2736

**For the Degree of Bachelor of Science in Materials Science and Engineering**

A revolution in materials technology is underway that will be a key factor in determining the outcome of global economic competition. Within the last several decades, the dominant materials of industrial society have been rapidly supplemented or replaced by new and better combinations. High-quality new materials and superior designs for function and for manufacturing are making possible improved products at minimal cost. The materials science and engineering curriculum is designed to give students both a broad education in the fundamentals of all materials of economic importance, through the junior year core courses, and permit specialization in the senior year in one of the four major areas: ceramics, metals, polymers, and electronic materials. In addition to defined concentrations in these four areas, individual interdisciplinary concentrations can also be arranged. The senior year courses are directed at the processing,

design, and characterization of the chosen material, complemented by a selection of area electives and an in-depth course in an additional area of materials. The program can serve as the basis for graduate study as well as the proper training for students choosing to enter industry directly.

The curriculum requires 128 hours for graduation.

**First year<sup>1</sup>**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
16	Total

HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
3	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>2</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	T A M 150—Analytical Mechanics (Statics)
6	Electives in social sciences or humanities <sup>2</sup>
17	Total

HOURS	SECOND SEMESTER
1	C S 110—Programming Laboratory
3	ECE 260—Introduction to Electric Circuits
3	MATSE 200—Introduction to Materials Science and Engineering
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 221—Elementary Mechanics of Solids
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	I E 238—Analysis of Data
2	MATSE 207—Materials Science and Engineering Lab, I <sup>3</sup>
4	MATSE 301/CHEM 245—Thermodynamics of Materials
4	MATSE 305—Microstructure Characterization
3	MATSE 303—Synthesis of Materials
16	Total

HOURS	SECOND SEMESTER
3	MATSE 204—Electronic Properties of Materials
2	MATSE 208—Materials Science and Engineering, Lab II <sup>3</sup>
3	MATSE 302—Kinetic Processes in Materials
3	MATSE 306—Thermal-Mechanical Behavior of Materials
3	Division specialty course <sup>4</sup>
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

**Fourth year<sup>5</sup>**

HOURS	FIRST SEMESTER
2	Technical elective <sup>6</sup>
6	Division specialty courses
3	Free elective
3	Electives in social sciences or humanities <sup>2</sup>
14	Total

HOURS	SECOND SEMESTER
6	Division specialty courses <sup>4</sup>
3	Technical elective <sup>6</sup>
3	Free elective
3	Elective in social sciences or humanities <sup>2</sup>
15	Total

<sup>1</sup> It is recommended that freshmen with appropriate background in analytical geometry take the MATH 135, 245 calculus sequence, delaying MATH 225 until the sophomore year, instead of MATH 120, 130, 242. All freshmen are urged to take MATSE 100—Materials Lectures (1 hour).

- Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.
- Satisfies the general education Composition II requirement.
- Selected from the departmental list of approved division specialty courses for each area of concentration.
- It is recommended that students who intend to continue in graduate school undertake a research project in the senior year.
- Selected from the departmental list of approved technical electives, which is available from the department.
- Selected outside the area of concentration from departmental list of approved technical electives.

### Division Specialty Courses

The courses listed below have been approved by the department to satisfy the requirements in each of the four areas of technical specialization. Students wishing to pursue other areas of specialization not listed should consult with their academic adviser or the chief adviser for the department. Each area of specialization requires at least one course covering each of the topics processing, design, and characterization together with suitable electives. Such customized programs require the approval of the department.

HOURS	CERAMICS CONCENTRATION
3	MATSE 320—Ceramics Materials and Properties
4	MATSE 321—Ceramic Processing and Microstructure Development
3	MATSE 322—Process Design
2	MATSE 323—Ceramic Engineering Processing Laboratory
3	Division technical elective <sup>1</sup>
HOURS	ELECTRONIC MATERIALS CONCENTRATION
3	MATSE 360—Electronic Materials and Processing, I
3	MATSE 361—Electronic Materials and Processing, II
3	MATSE 362—Electronic Materials Laboratory
3	ECE 340—Solid State Electronic Devices
3	Division technical elective <sup>1</sup>
HOURS	METALS CONCENTRATION
3	MATSE 340—Advanced Mechanical Properties of Solids
3	MATSE 342—Metals Laboratory
3	MATSE 343—Design of Engineering Alloys
3	MFG E 340—Processing and Finishing of Materials
3	Division technical elective <sup>1</sup>
HOURS	POLYMER CONCENTRATION
3	MATSE 350—Introduction to Polymer Science and Engineering
3	MATSE 352—Polymer Characterization Laboratory
3	MATSE 353—Plastics Engineering
6	Division technical elective <sup>1</sup>

1. Selected from an approved list of electives for each area of technical specialization. This list is available from the department.

### CURRICULUM IN MECHANICAL ENGINEERING

Department of Mechanical and Industrial Engineering  
154 Mechanical Engineering Building  
1206 West Green Street  
Urbana, IL 61801  
(217) 333-0366  
FAX: (217) 244-6534

#### For the Degree of Bachelor of Science in Mechanical Engineering

Mechanical engineering is concerned with the theory of conversion and transmission of energy and the practical use of power processes; the kinematic, dynamic, and strength and wear considerations as well as the technological and economic aspects in the development, design, and use of machines and processes; the analysis, synthesis, and control of entire engineering systems; and the organizational and management problems confronting the mechanical engineer.

The curriculum requires 130 hours for graduation. A curriculum revision was pending at the time of publication. See the departmental adviser (154 MEB, 244-0458) for more information.

#### First year

HOURS	FIRST SEMESTER
4	CHM 101—General Chemistry
0	ENG 100—Engineering Lecture
5	MATH 120—Calculus and Analytic Geometry, I
1	M E 199—Undergraduate Open Seminar
4	RHET 105—Principles of Composition

3 Elective in social sciences or humanities<sup>1</sup>

17 Total

#### HOURS SECOND SEMESTER

2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
4	CHM 102—General Chemistry (Biological or Physical Version)
3	G E 103—Engineering Graphics and Design
3	MATH 130—Calculus and Analytic Geometry, II
4	PHYS 106—General Physics (Mechanics)
16	Total

#### Second year

##### HOURS FIRST SEMESTER

1	C S 110—Programming Laboratory
2	MATH 225—Introductory Matrix Theory
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
4	T A M 154—Analytical Mechanics (Statics and Dynamics)
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

##### HOURS SECOND SEMESTER

4	ECE 270—Introduction to Circuit Analysis
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 221—Elementary Mechanics of Solids
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

#### Third year

##### HOURS FIRST SEMESTER

3	M E 205—Thermodynamics
3	M E 211—Introductory Gas Dynamics
4	ME 231—Engineering Materials
4	ME 240—Modeling and Analysis of Dynamic Systems
3	Elective in social sciences or humanities <sup>1</sup>
17	Total

##### HOURS SECOND SEMESTER

3	M E 213—Heat Transfer
3	M E 261—Introduction to Instrumentation, Measurement, and Control Fundamentals <sup>2</sup>
4	M E 270—Analysis and Design of Machines
0	M E 291—Seminar
3	Technical electives <sup>3</sup>
3	Elective in social sciences or humanities <sup>1</sup>
16	Total

#### Fourth year

##### HOURS FIRST SEMESTER

2	M E 250—Thermal Science Laboratory <sup>2</sup>
3	M E 285—Design for Manufacturability
8	Technical electives <sup>3</sup>
3	Elective in social sciences or humanities <sup>1</sup>
16	Total

##### HOURS SECOND SEMESTER

3	M E 280—Senior Mechanical Engineering Design Project <sup>4</sup>
6	Technical electives <sup>3</sup>
5	Free electives
14	Total

1. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102 or 103. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

2. These courses can be taken in either the fall or spring semester.

3. A total of 17 hours of technical electives is required and must be chosen from a departmentally approved list. A limit of 3 hours of this total can be from undergraduate independent study courses.

4. Satisfies the general education Composition II requirement.

**CURRICULUM IN METALLURGICAL ENGINEERING**

Department of Materials Science and Engineering  
201 Metallurgy and Mining Building  
1304 West Green Street  
Urbana, IL 61801  
(217) 333-1441  
FAX: (217) 333-2736

**For the Degree of Bachelor of Science in Metallurgical Engineering**

The program in metallurgical engineering is administered by and is part of the Department of Materials Science and Engineering. Metallurgical engineering is one of the principal fields dealing with materials: their properties, behavior, and application. Major industries such as steel, automotive, transportation, and construction depend heavily on metals and alloys. The metallurgical engineering curriculum provides a strong background in engineering and applied science with emphasis on physical metallurgy.

The curriculum requires 128 hours for graduation.

**First year<sup>1</sup>**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105—Principles of Composition
16	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>2</sup>
16	Total

**Second year**

HOURS	FIRST SEMESTER
2	CS 101—Introduction to Computing for Application to Engineering and Physical Science
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
2	T A M 150—Analytical Mechanics (Statics)
6	Elective in social sciences or humanities <sup>2</sup>
17	Total
HOURS	SECOND SEMESTER
1	CS 110—Programming Laboratory
3	ECE 260—Introduction to Electric Circuits
3	MATSE 200—Introduction to Materials Science and Engineering
3	MATH 285—Differential Equations and Orthogonal Functions
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	T A M 221—Elementary Mechanics of Solids
17	Total

**Third year**

HOURS	FIRST SEMESTER
3	IE 238—Analysis of Data
2	MATSE 207—Materials Science and Engineering Lab, I <sup>3</sup>
4	MATSE 301/CHEM 245—Thermodynamics of Materials
4	MATSE 305—Microstructure Characterization
3	Technical elective <sup>4</sup>
16	Total
HOURS	SECOND SEMESTER
3	MATSE 204—Electronic Properties of Materials
2	MATSE 208—Materials Science and Engineering Lab, II <sup>3</sup>
3	MATSE 302—Kinetic Processes in Materials
3	MATSE 306—Thermal-Mechanical Behavior of Materials
3	Technical elective <sup>4</sup>
3	Elective in social sciences or humanities <sup>2</sup>
17	Total

**Fourth year<sup>5</sup>**

HOURS	FIRST SEMESTER
3	MFG E 340—Processing and Finishing of Materials
3	MET E/MATSE 340—Advanced Mechanical Properties of Solids
3	MET E/MATSE 342—Metals Laboratory
3	Elective in social sciences or humanities <sup>2</sup>
2	Technical elective <sup>4</sup>
14	Total
HOURS	SECOND SEMESTER
3	MET E/MATSE 343—Design of Engineering Alloys
3	Technical elective <sup>4</sup>
6	Free electives
3	Elective in social sciences or humanities <sup>2</sup>
15	Total

1. It is recommended that freshmen with appropriate backgrounds in analytical geometry take the MATH 135, 245 calculus sequence, delaying MATH 225 until the sophomore year, instead of MATH 120, 130, 242. All freshmen are urged to take MATSE 100—Materials Lectures (1 hour).

2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.

3. Satisfies the general education Composition II requirement.

4. Selected from the departmental list of approved technical electives in metallurgy.

5. It is recommended that students who intend to continue in graduate school undertake a research project in their senior year.

**CURRICULUM IN NUCLEAR ENGINEERING**

Department of Nuclear Engineering  
214 Nuclear Engineering Laboratory  
103 South Goodwin Avenue  
Urbana, IL 61801  
(217) 333-2295  
FAX: (217) 333-2906  
EMAIL: nuclear@ux1.cso.uiuc.edu

**For the Degree of Bachelor of Science in Nuclear Engineering**

The curriculum in nuclear engineering provides students with comprehensive study in basic sciences, basic engineering, the social sciences and humanities, and technical areas specific to nuclear engineering. It also provides a large, flexible selection of both technical electives and free electives that enables the student to emphasize breadth or depth of study or both. The curriculum not only prepares its graduates to enter directly into a wide variety of careers in nuclear engineering but also to continue formal education at the graduate level.

Nuclear engineering is a branch of engineering primarily related to the development and use of nuclear energy sources, including (1) the continued application of fission reactors as central electric power plant thermal sources; (2) the longer term development of fusion reactors for electric power generation; and (3) the use of radiation sources in such areas as materials, biological systems, medical treatment, radiation instrumentation, and activation analysis.

The following suggested course sequence would allow for graduation in eight semesters.

The curriculum requires 127 hours for graduation. A curriculum revision was pending at the time of publication. See a departmental adviser for more information.

**First year**

HOURS	FIRST SEMESTER
4	CHEM 101—General Chemistry
0	ENG 100—Engineering Lecture
3	G E 103—Engineering Graphics and Design
5	MATH 120—Calculus and Analytic Geometry, I
1	NUC E 290F—Nuclear Engineering Freshman Orientation <sup>1</sup>
4	RHET 105—Principles of Composition
17	Total
HOURS	SECOND SEMESTER
4	CHEM 102—General Chemistry (Biological or Physical Version)
3	MATH 130—Calculus and Analytic Geometry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 106—General Physics (Mechanics)
3	Elective in social sciences or humanities <sup>2</sup>
16	Total



**Second year****HOURS FIRST SEMESTER**

- 2 C S 101—Introduction to Computing for Application to Engineering and Physical Science  
 3 MATH 242—Calculus of Several Variables  
 4 PHYCS 107—General Physics (Heat, Electricity, and Magnetism)  
 3 Elective in social sciences or humanities<sup>2</sup>  
 3 Elective in social sciences or humanities<sup>2</sup>, free elective<sup>3,4</sup>, or elective in nuclear engineering<sup>5</sup>  
 15 Total

**HOURS SECOND SEMESTER**

- 1 C S 110—Programming Laboratory  
 4 PHYCS 108—General Physics (Light, Sound, and the Structure of Matter)  
 3 MATH 285—Differential Equations and Orthogonal Functions  
 3 M E 205—Thermodynamics  
 4 T A M 154—Analytical Mechanics (Statics and Dynamics)  
 2 Elective in social sciences or humanities<sup>2</sup>, free elective<sup>3,4</sup>, or elective in nuclear engineering<sup>5</sup>  
 17 Total

**Third year****HOURS FIRST SEMESTER**

- 3 M E 211—Introductory Gas Dynamics  
 3 PHYCS/NUC E 346—Modern Physics for Nuclear Engineers  
 3 T A M 221—Elementary Mechanics of Solids  
 3 Advanced mathematics<sup>2</sup>  
 3 Elective in social sciences or humanities<sup>2</sup>  
 15 Total

**HOURS SECOND SEMESTER**

- 3 ECE 260—Introduction to Electric Circuits<sup>6</sup>  
 4 NUC E 347—Introduction to Nuclear Engineering  
 3 NUC E 351—Nuclear Engineering Laboratory  
 3 Technical elective<sup>6</sup>  
 3 Elective in social sciences or humanities<sup>2</sup>  
 16 Total

**Fourth year****HOURS FIRST SEMESTER**

- 3 Nuclear engineering elective<sup>3</sup>  
 3 Technical elective<sup>6</sup>  
 1 NUC E 352—Advanced Nuclear Engineering Laboratory  
 3 NUC E 358—Design in Nuclear Engineering  
 3 Elective in social sciences or humanities<sup>2</sup>, or free elective<sup>4</sup>  
 16 Total

**HOURS SECOND SEMESTER**

- 3 Nuclear engineering elective<sup>3</sup>  
 6 Technical elective<sup>6</sup>  
 6 Elective in social sciences or humanities<sup>2</sup>, or free elective<sup>4</sup>  
 15 Total

1. This course is strongly recommended in the freshman year.
2. Each student must satisfy the social sciences and humanities requirements of the College of Engineering, including ECON 102 or 103. Students entering in fall 1994 and later must also satisfy the campus general education requirements for social sciences and humanities.
3. A total of 6 hours of electives are free to be selected by the student.
4. Consideration should be given to NUC E 101—Introduction to Energy Sources as a free elective in the freshman or sophomore year.
5. A student is required to take a minimum of 9 hours selected from the following nuclear engineering electives (at least 6 hours are to be at the 300 level): NUC E 241—Introduction to Radiation Protection (2 hours); NUC E 243—Radiation Protection Laboratory (1 hour); NUC E 290—Special Topics (1 to 4 hours); NUC E 295—Special Problems (1 to 4 hours); NUC E 312—Nuclear Power Economics and Fuel Management (3 hours); NUC E 321—Introduction to Controlled Thermonuclear Fusion (4 hours); NUC E 331—Material Science in Nuclear Engineering (3 hours); NUC E 341—Nuclear Radiation Protection (3 hours); NUC E 342—Radioactive Waste Management (2 hours); NUC E 352—Advanced Nuclear Engineering Laboratory (1 to 3 hours); NUC E 355—Reactor Statics and Dynamics (4 hours); NUC E 357—Safety Analysis of Nuclear Reactor Systems (3 hours); and NUC E 390—Intermediate Special Topics (1 to 4 hours).
6. To comply with the general education Composition II requirement, the department recommends one of these classes, which are listed in order of preference: SPOM 220, B&W 252, B&W 251, RHET 133, RHET 143, ENGL 300.
7. Students are required to take a minimum of one 3-hour advanced mathematics course at the 300 level in addition to MATH 285.
8. ICF 270—Introduction to Circuit Analysis (4 hours) is strongly preferred. The extra hour can be used as a technical elective credit.
9. A student is required to select 15 hours of technical electives from a departmentally approved list above and in accordance with college guidelines.

NOTE: Students are required to have a specific area of specialization. This is accomplished by careful selection of technical electives and nuclear engineering electives to provide a minimum of three courses in the specialized area of study. Examples of such areas are power, materials, radiation protection, biological effect of radiation, thermal-hydraulics, fusion, and plasma engineering. A student who has selected an area of specialization may elect to substitute a more appropriate course for those specified as required in the above listing in order to begin a sequence. A course substitute must have as high a caliber and content as that being replaced.

**COLLEGE OF FINE AND APPLIED ARTS**

110 Architecture Building  
 608 East Lorado Taft Drive  
 Champaign, IL 61820  
 (217) 333-1660

The College of Fine and Applied Arts prepares men and women for professional work by offering programs in architecture, art and design, dance, landscape architecture, music, theatre, and urban and regional planning. Both freshmen and transfer students are admitted to these curricula. In each curriculum certain basic courses, professional courses, and general education requirements, including 6 semester hours each in the humanities and the arts, social and behavioral sciences, and natural sciences and technology, must be completed in order to qualify for the specific baccalaureate degree offered.

For development beyond the undergraduate programs in these areas of study, the departments of the college offer graduate curricula leading to advanced professional degrees through the Graduate College.

For students enrolled in other colleges and schools of the University of Illinois at Urbana-Champaign, the College of Fine and Applied Arts offers introductory courses designed to increase aesthetic appreciation and development, and to portray the role of the arts in civilization. Participation in the many bands, choruses, and orchestras on campus, as well as private instruction on most instruments and in voice, is available to students in all colleges by audition.

To serve the total academic community and all citizens in the state of Illinois, the college features the arts in exhibitions, concerts, lectures, performances, demonstrations, and conferences within the areas of architecture, art, dance, landscape architecture, music, theatre, and urban and regional planning. Many outstanding professionals and works in these fields are brought to the University campus.

In addition to the teaching divisions, the College of Fine and Applied Arts includes the Krannert Center for the Performing Arts, and the Krannert Art Museum and Kinkead Pavilion.

**Special Facilities****KRANNERT ART MUSEUM AND KINKEAD PAVILION**

The museum exhibits art objects from its extensive collections, which date from ancient Egypt to our own time. In addition, it schedules a full program of changing exhibitions. These bring to the campus a wide variety of historic and contemporary works of art.

**KRANNERT CENTER FOR THE PERFORMING ARTS**

The Krannert Center for the Performing Arts, which opened in 1969, is a remarkable four-theatre performing arts complex with spaces for instruction, rehearsal, and performance in theatre, opera, dance, and music. The Foellinger Great Hall, seating 2,200, is designed for large-scale musical events. The Festival Theatre, with 1,000 seats, is for opera, dance, and other musical stage productions. The Colwell Playhouse seats 700 and is the home of the Illinois Repertory Theatre. The Studio Theatre, seating 150, is for experimental productions. An outdoor amphitheatre, rehearsal rooms, offices, dressing rooms, technical shops, and underground parking on two levels for 650 cars complete this monumental facility. The major donors of the center were Mr. and Mrs. Herman C. Krannert of Indianapolis.

**UNIVERSITY MUSIC PERFORMANCE ORGANIZATIONS**

The School of Music offers credit for all students enrolled in its many performance organizations. These organizations include ensembles in the nationally recognized Department of Bands: Wind Ensemble, two Symphonic Bands, three Concert Bands, Basketball Band, Brass Band, Clarinet Choir, the steel drum band, and the world-famous Marching Illini. The Choral Division offers singers the opportunity to

perform in the Oratorio Society, Black Chorus, Women's Chorus, University Chorus, Men's and Women's Glee Clubs, Concert Choir, and UI Choral. The University Symphony and Illini Symphony, four jazz bands, a Javanese gamelan, the Russian Folk Orchestra, and ensembles specializing in contemporary music, chamber music, harp, and early music, among others, satisfy student interest both as performers and concertgoers.

A student in any college wishing to enroll in a performance organization should contact the School of Music or the appropriate ensemble director to receive further information and arrange for an audition.

### LIBRARIES

Students in the college have at their disposal outstanding library resources. In addition to the University Library, one of this country's great university collections, there are specialized libraries serving the needs of specific fields. The Ricker Library of Architecture and Art contains more than 49,000 books (with almost 50,000 in the same fields in the University Library), 33,000 photographs, and 9,400 clippings.

The City Planning and Landscape Architecture Library houses about 20,000 volumes of current interest, while more than 100,000 related volumes are in the University Library.

The School of Music Library, located in the Music Building, contains more than 750,000 items. These include introductory, instructive, research, and reference materials including books, editions of music, recordings, manuscripts, microfilm, and other nonbook materials.

### Departments, Schools, and Curricula

The College of Fine and Applied Arts consists of the Departments of Dance, Landscape Architecture, Theatre, and Urban and Regional Planning; the Schools of Architecture / Building Research Council, Art and Design, and Music; the Krannert Art Museum and Kinkead Pavilion; and the Krannert Center for the Performing Arts. The specific functions of each department or school and the undergraduate curricula are described on the following pages.

All departments in the College of Fine and Applied Arts reserve the right to retain, exhibit, and reproduce the works submitted by students for credit in any course.

### Special Programs

#### INDIVIDUAL STUDY PROGRAM

Each curriculum offered by the College of Fine and Applied Arts is designed to develop professional competence in the specific area of studies noted on the degree. Therefore, an individual study program must ensure this professional development. A qualified student who has specific professional goals that are not met by the curricular offerings of the college may request an individual program of studies selected from courses offered by the University. Such a program must include the basic courses prerequisite for advanced study, requirements of the University for graduation, general education requirements of the college, and professional course work that will ensure the competence expected for the particular degree.

To obtain approval for an individual study program, the student must submit his or her proposal in writing during the sophomore or junior year. The proposal should contain an outline of the complete program of course work, as well as an explanation of the professional goal desired. It should be discussed with and submitted to an approved representative of the appropriate department or school concerned with the degree, who will then forward the proposal through the executive officer of the department or school for recommendation to the college office. Final consideration and notification of the action taken on the proposal will be made by the college office.

#### STUDY ABROAD

The college provides the opportunity for students to obtain campus credit for foreign study and/or travel for a period of from one semester to one calendar year. Students must submit detailed proposals of plans for such study and/or travel for approval by the appropriate departmental committees and by the associate dean of the college prior to such study abroad. If approved, students register and retain their status as University students and may continue their student health insurance as if they continued to study at the Urbana-Champaign campus.

### HONORS AT GRADUATION

At graduation, the College of Fine and Applied Arts grants honors to superior students. To be eligible, students must have completed a minimum of four semesters of work or 65 hours of credit in residence at the Urbana-Champaign campus.

For the degree with honors, the student must have a grade-point average of 4.25 (A = 5.0) or better in all courses used for graduation and be in the upper 25 percent of those receiving that particular degree; for the degree with high honors, a grade-point average of 4.5 or better and the upper 15 percent; and for the degree with highest honors, a grade-point average of 4.75 or better and the upper 6 percent. Credit earned at other institutions and transferred to the University of Illinois is used in computing the student's average. Credit earned at the University of Illinois at Urbana-Champaign must be of at least the level required for the degree with honors.

### Requirements

#### GRADUATION

Students who meet the general University requirements with reference to registration, residence, scholarship, fees, rhetoric, and general education requirements, and who maintain satisfactory records, receive degrees appropriate to the curricula completed. Refer to the specific departmental and curricular requirements listed on the following pages. In addition, students must complete the required senior courses in their major field of study in residence at the Urbana-Champaign campus.

#### GENERAL EDUCATION

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Some changes in requirements are expected to take effect in the coming years. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

#### ELECTIVES

Electives specified in any curriculum in the College of Fine and Applied Arts must be chosen from the lists that follow. Single courses specified in the sequence lists or more advanced courses for which they are prerequisites may also be used as electives.

#### GENERAL EDUCATION DISTRIBUTION

To comply with the general education sequence requirements, each student in the College of Fine and Applied Arts must have a minimum of 6 semester hours in each of the following three areas: the humanities and the arts, social and behavioral sciences, and natural sciences and technology. These lists will have additions or deletions occasionally and students are advised to use a current list when selecting courses to meet these requirements.

1. A student may not use courses in his or her major area to satisfy a distribution requirement.
2. Basic foreign language courses, rhetoric and speech requirements, L A S 110, and courses numbered 199 may not be used to fulfill the distribution requirements.
3. Foreign language that is used in lieu of high-school entrance requirements will not be accepted as elective credit, nor will the first semester of any other foreign language be accepted without completion of the second semester.
4. A maximum of 6 hours of credit in RHET 100-105, and 108 may be applied toward the degree. E S L 114 and 115 will apply toward the degree.
5. Approval to use any course not contained in the listings must be requested by written petition to the Office of the Associate Dean of the college prior to registration in the substitute course or courses. Approval of an adviser or instructor only is not acceptable.

#### HUMANITIES AND THE ARTS (6 semester hours)

AFRO 224  
AFRS 210, 213  
ANTH 105, 107, 150, 157, 186, 258  
ARTHI 112, 115, 241  
C LIT 141, 142, 189, 190, 201, 202  
CINE 261, 262  
CLCIV 114, 115, 116, 120, 131, 132, 160, 221, 222, 231, 240  
DANCE 240, 100  
E P S 311, 312

EALC 175, 205, 206, 207, 208, 219, 225, 262, 267  
 ECON 238  
 ENGL 101-103, 115, 116, 118, 198, 202, 204, 206, 208-210, 213, 240, 243-249, 255-256, 274, 284, 285  
 FR 155, 205, 209, 210  
 GER 161, 162, 231, 232, 260  
 HIST 110, 111, 112, 113, 150, 151, 152, 168, 170, 175-177, 181, 182, 202-204, 211, 212, 215, 219, 222, 224, 231, 232, 245, 247-250, 253, 254, 260-262, 263, 272-274, 285, 286  
 ITAL 240  
 LING 210, 240  
 MUSIC 130-133, 135  
 PERS 205, 206  
 PHIL 101-103, 105, 110, 201, 203, 206, 210, 214, 225, 230, 250, 270  
 POL S 260  
 RELST 101, 103, 104, 106, 120-123, 132, 201, 260, 283, 286, 287  
 RUSS 115, 116  
 SCAN 215, 251, 252  
 SOC 180  
 SPAN 225, 227, 244  
 THEAT 110, 178

#### SOCIAL AND BEHAVIORAL SCIENCES (6 semester hours)

AERO 100, 244  
 AFRST 222, 254  
 AG EC 100, 201, 210  
 ANTH 103, 182, 260-262  
 EALC 150, 261, 265  
 ECON 101-103, 214, 215, 255  
 GEOG 101, 104, 110, 204, 210, 214, 224  
 HDFS 210  
 HIST 174  
 KINES 140, 249, 262  
 LA ST 170  
 LING 200, 225, 250  
 PHIL 106, 107  
 POL S 100, 150, 235, 240, 241, 280  
 PSYCH 100, 103, 201, 216, 224, 238, 239, 248  
 R SOC 110  
 REES 200  
 SOC 100, 201, 226, 240, 243, 270, 276  
 SOC W 100  
 SPCOM 102  
 W S 111, 112

#### NATURAL SCIENCES AND TECHNOLOGY (6 semester hours)

ANTH 143  
 ASTR 100, 113, 121, 122  
 ATMOS 100, 140  
 BIOL 100, 101, 106-108, 120-122  
 BIOPH 254  
 CHEM 101, 102, 107, 108, 115  
 EEE 105  
 ENTOM 105  
 GEOG 103  
 GEOL 100-102, 104, 105, 107, 108, 116, 117, 118, 143  
 KINES 150  
 MCBIO 100  
 NUC E 101  
 PHYSICS 101-102, 106-108, 140, 150  
 PHYS 103  
 PL PA 100  
 PLBIO 100, 102  
 PSYCH 210

#### QUANTITATIVE REASONING I

AG EC 261  
 C S 101, 102, 103, 105, 110, 125  
 ECON 172  
 EDPSY 290  
 MATH 118-121, 124, 130, 131, 134, 135, 242, 244, 245  
 PHIL 202  
 PSYCH 235  
 SOC 185  
 STAT 100  
 U P 116

#### CULTURAL STUDIES: WESTERN AND NON-WESTERN

General education requirements in this area are being implemented at the time of publication of this catalog. Students are advised to consult college and departmental offices, handbooks, and advisers.

#### ELECTIVE AREAS

Air Force aerospace studies, military science, and naval science—advanced courses only (maximum of 6 hours)  
 Accountancy  
 Agriculture

Advertising  
 Anthropology  
 ARCH 210 (not for art majors), 310-318  
 Art—all courses specified for nonmajors (none usable for art or architecture majors) and all art history courses  
 African studies  
 Asian studies  
 Astronomy  
 Aviation—maximum of 6 hours  
 Band—maximum of 3 hours (not for music majors)  
 Business administration  
 Chemistry  
 Classics  
 Communication  
 Comparative literature  
 Computer science  
 Consumer sciences  
 Dance—especially DANCE 101, 102, 107, 108, 131, 150, 331, 341; maximum of 3 hours in studio courses to apply as elective credit (none for dance majors)  
 East Asian languages and culture  
 Ecology, ethology, and evolution  
 Economics  
 Engineering  
 English—including advanced rhetoric, and business and technical writing  
 Finance  
 Food science  
 Foods and nutrition  
 French<sup>1</sup>  
 Geography  
 Geology  
 Germanic languages and literatures<sup>1</sup>  
 Health and safety studies  
 History  
 Horticulture  
 Human development and family studies  
 Humanities  
 Journalism  
 Kinesiology (physical education)—maximum of 3 hours activity courses  
 Labor and industrial relations  
 Landscape architecture (not for landscape architecture majors)  
 Latin American studies  
 L A S—110, by petition only (maximum of 6 hours)  
 Leisure studies  
 Library science  
 Life sciences  
 Linguistics  
 Mathematics<sup>1</sup>  
 Music—especially MUSIC 100-104, 113, 130, 131; maximum of two instrumental courses; three ensembles including bands (not for music majors)  
 Philosophy  
 Physics  
 Political science  
 Psychology  
 Religious studies  
 Slavic languages and literatures  
 Social sciences  
 Sociology  
 Spanish<sup>1</sup>, Italian, and Portuguese  
 Speech communications  
 Theatre—especially THEAT 110, 281 (not for theatre majors)  
 Urban planning (not for urban and regional planning or architecture majors)

1. Cannot duplicate high school entrance or curricular requirements or prerequisites regardless of course placement by examination.

## SCHOOL OF ARCHITECTURE

117 Temple Hoyne Buell Hall  
 611 East Loreda Taft Drive  
 Champaign, IL 61820  
 (217) 333-1330

The mission and educational intent of the School of Architecture is, in the broadest sense, concerned with the design of the built environment and its relationship with the natural environment as directed toward and responding to the needs and aspirations of human purposes. Architectural education at Illinois provides first, at the undergraduate level, an in-depth professional preparation together with a base of liberal arts education; and second, at the graduate level, an appropriately diversified selection of professional options that allow students to gain depth in pursuit of individual interests that are applicable to current and future professional directions.



In the final analysis, the goal of the program is multifaceted. Graduates should expect to prepare themselves for active professional roles and to gain knowledge of architectural opportunities, problems, issues, and challenges, and ways to address them. They will become familiar with the language of the many disciplines that contribute to the shaping of the built environment and to become aware of past, present, and new applications of information and knowledge. Additionally graduates also will develop a sense of confidence in their personal interpretation of the role of the profession in society and in their ability to become a vital part of the practice of architecture.

### DEGREE PROGRAMS IN ARCHITECTURE

The School of Architecture offers a four-year preprofessional curriculum leading to the bachelor of science in architectural studies degree. The B.S.A.S. degree provides an undergraduate academic education in architecture that can serve as a foundation for advanced professional education. The undergraduate curriculum offers an appropriate balance of basic professional studies in architectural design, architectural history, practice and technology, structures, and studies in the arts and sciences.

School facilities are limited, and preference will be given to the best-qualified applicants until quotas are filled at both the undergraduate and graduate levels of the program.

Since 1967, the School of Architecture has operated a one-year study abroad program in Versailles, France, which is open to qualified students on a priority basis. Course offerings parallel those available to students on the Urbana-Champaign campus but stress the European context.

The School of Architecture occupies drafting rooms, lecture rooms, and offices in the Architecture Building, Flagg Hall, and Temple Hoyne Buell Hall. The Ricker Library of Architecture and Art is located in the Architecture Building.

### UNDERGRADUATE CURRICULUM IN ARCHITECTURE

#### For the Degree of Bachelor of Science in Architectural Studies

In this curriculum, normal progress is imperative. A student failing to complete any required course more than one semester later than the time designated in the curriculum is prohibited from progressive registration in architectural courses until the deficiency is corrected. To continue at the sophomore level and beyond, a student must have a cumulative grade-point average of 3.25 (A = 5.0) for all University course work attempted. For the bachelor of science in architectural studies degree, a total of 127 semester hours are required.

#### First year

HOURS	FIRST SEMESTER
3	HIST 111—History of Western Civilization to 1660
2	ARCH 199 ITA—Introduction to Architecture (or approved elective) <sup>1</sup>
4	RHET 105 or 108—Composition
3	MATH 120—Calculus and Analytic Geometry, I
2	ARTGP 187—Drawing
16	Total
HOURS	SECOND SEMESTER
3	HIST 112—History of Western Civilization, 1660 to the Present
3	Social and behavioral sciences (see college list)
3	MATH 130—Calculus and Analytic Geometry, II
3	C S 102—Introduction to Digital Computing
3	Elective <sup>1</sup>
15	Total

#### Second year

HOURS	FIRST SEMESTER
3	ARCH 171—Architectural Design, I
3	ARCH 210—Introduction to the History of Architecture
4	ARCH 231—Anatomy of Buildings
2	ARTGP 188—Watercolor
3	Social and behavioral sciences
15	Total
HOURS	SECOND SEMESTER
3	ARCH 172—Architectural Design, II
3	ARCH 232—Construction of Buildings
2	ARTGP 189—Art Studio
3	Natural sciences and technology (see college list)

3	Composition II <sup>2</sup>
15	Total

#### Third year

HOURS	FIRST SEMESTER
3	ARCH 271—Architectural Design, III
3	Architectural history <sup>3</sup>
4	ARCH 251—Statics and Dynamics
3	U P 101—Planning of Cities and Regions (or approved urban studies substitute) <sup>4</sup>
3	Elective <sup>1</sup>
16	Total
HOURS	SECOND SEMESTER
3	ARCH 272—Architectural Design, IV
3	Architectural history <sup>3</sup>
4	ARCH 252—Strengths of Materials and Design Applications
3	Natural sciences and technology
3	Elective <sup>1</sup>
16	Total

#### Fourth year

HOURS	FIRST SEMESTER
6	ARCH 371—Architectural Design, V
4	ARCH 241—Environmental Technology, I
4	Architectural structures (ARCH 351 or 352)
3	Elective <sup>1</sup>
17	Total
HOURS	SECOND SEMESTER
6	ARCH 372—Architectural Design and Construction Documentation
4	ARCH 242—Environmental Technology, II
4	Architectural structures (ARCH 351 or 352)
3	Architectural history <sup>3</sup>
17	Total

1. General education electives are any courses on the approved college list: minimum of 5, maximum of 14 hours. Professional electives are courses in architecture and related professional disciplines approved by the School of Architecture: no minimum, maximum of 9 hours.

2. Satisfied by either a separate, approved Composition II course or by a Composition II course that also satisfies one of the general education distribution list requirements. By the latter, electives would be taken to make up credit deficiency.

3. The architectural history requirement is one course from ARCH 310, 311, or 312; one course from ARCH 313 or 314; and one course from ARCH 315, 316, or 318.

4. Approval by the School of Architecture is required.

### SCHOOL OF ART AND DESIGN

143 Art and Design Building  
408 East Peabody  
Champaign, IL 61820  
(217) 333-0855

The School of Art and Design offers bachelor of fine arts degrees in art education, crafts, graphic design, the history of art, industrial design, painting, photography, and sculpture. The first year of each curriculum is basic and cultural. Specialization begins in the second year.

First-year students who wish to concentrate in the history of art will be admitted into the history of art curriculum. All other first-year students will be admitted to the general curriculum in art and design. After completing one year in the general program, a student must select one of the more specialized art and design curricula.

Courses in the history and appreciation of art and certain courses in studio work are open to students from other colleges of the University.

A field of concentration in art history is also offered in the College of Liberal Arts and Sciences (see page 128).

Courses in cinematography and printmaking are offered at introductory, advanced, and graduate levels.

The school occupies studios, drafting rooms, classrooms, and offices in several different University buildings.

#### REQUIREMENTS

#### PORTFOLIO AND MINIMUM GRADE REQUIREMENTS

A portfolio review may be required for placement in any art and design course beyond the entry level of the foundation program. After

completing the foundation program, a student who meets or exceeds minimum grade requirements listed below may apply for admission to one of the bachelor of fine arts (B.F.A.) degree curricula. Higher than minimum grade-point averages may be required due to the limits of faculty and facilities. Several B.F.A. curricula also select students by portfolio review near the end of the foundation year. Minimum grade-point averages are:

3.25	Foundation Program, Crafts, Graphic Design, History of Art, Painting, and Sculpture
3.5	Art Education, Industrial Design, and Photography
4.0	Individual Study Programs

## FOUNDATION PROGRAM FOR ALL ART AND DESIGN CURRICULA

### First year

HOURS	FIRST SEMESTER
4	ARTHI 111—Ancient and Medieval Art
0	ARTGP 113—Orientation to Art and Design
3	ARTGP 117—Drawing, I
3	ARTGP 119—Design, I
4	RHET 105 or 108—Composition
2	Elective
16	Total
HOURS	SECOND SEMESTER
4	ARTHI 112—Renaissance and Modern Art
3	ARTGP 118—Drawing, II
3	ARTGP 120—Design, II
6	Electives
16	Total

This first-year requirement is included in all art and design curricula that follow.

**NOTE:** Students of all undergraduate programs should be advised that revisions are being planned and that they should consult their adviser regarding the status of these revisions before registering.

## CURRICULUM IN ART EDUCATION

### For the Degree of Bachelor of Fine Arts in Art Education

The curriculum in art education requires 130 credit hours and prepares students for positions as teachers of art in the public schools, grades kindergarten through twelve. The program places emphasis on methods, materials, processes, and practice teaching in Illinois schools. Upon completion, graduates are eligible for the Standard Special Certificate as defined by the Illinois State Teacher Certification Board.

For teacher education requirements applicable to all curricula, see pages 43 to 46.

HOURS	GENERAL EDUCATION REQUIREMENTS
	All courses must appear on the Council on Teacher Education-approved list.
8-9	SPCOM 111 and 112 and an additional writing course, or RHET 105 or 108 and SPCOM 101 and WRITE 200
3	English or American literature
3-4	American history
3	POL S 150—American Government: Organization and Powers
3	Non-Western culture
3	One additional course to be chosen from literature and arts, historical and philosophical perspectives, or social perspectives (ARTHI 112 will satisfy this requirement)
3	Biological science <sup>1</sup>
3	Physical science <sup>1</sup>
3	One additional course to be chosen from biological science or physical science <sup>1</sup>
4	Mathematics
4	PSYCH 100—Introduction to Psychology
2	Health and physical development
41-43	Total
HOURS	ART HISTORY
4	ARTHI 111—Ancient and Medieval Art
4	ARTHI 112—Renaissance and Modern Art
3	Advanced art history (200 or 300 level)
11	Total
HOURS	GENERAL ART AND DESIGN
0	Orientation to art
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II

4	ARTPA 125 and 126—Life Drawing, I and II
4	ARTPA 143 and 144—Painting Composition I and II
21	Art electives <sup>2</sup>
	The following are recommended:
3	ARTPA 141—Beginning Painting
3	ARTCR 160 Jewelry, I
3	ARTCR 170—Ceramics, I
2	ARTPA 201—Watercolor, I
3	ARTPH 115—Photography
3	ARTSC 151—Sculpture
41	Total

HOURS	ART EDUCATION <sup>3</sup>
4	ARTED 204—Art Education Laboratory (repeat)
4	ARTED 206—Practicum in Teaching Art
3	ARTED 207—Art Curriculum and Practicum in the Elementary Grades
3	ARTED 208—Organization of Public School Art Programs
14	Total
HOURS	PROFESSIONAL EDUCATION
3	E P S 201—Foundations of American Education
3	EDPSY 211—Psychology of Teaching and Learning
6	Total
HOURS	STUDENT TEACHING
4	ARTED 280—Professional Seminar in Art Education
10	ED PR 238 and 242—Practicum in Elementary and Secondary Education
14	Total

- One science course must include a lab.
- A minimum of 8 semester hours is required in one of the following areas of specialization: sculpture, painting, ceramics, glass, jewelry and metalworking, photography, printmaking, art history.
- Art education courses are applicable to professional education requirements for teacher certification.

## MINOR IN ART EDUCATION

Required courses in drawing and design must precede all other course work in the minor area. For teacher education curricula students only.

HOURS	REQUIRED COURSES
3	ART&D 107—Elementary Drawing
3	ART&D 185—Design, I
6	Total
6	Select from the following courses:
3	ART&D 105—Introduction to Watercolor Painting
3	ART&D 106—Introduction to Oil Painting
2	ART&D 150—Beginning Sculpture
3	ARTCR 160—Jewelry, I
3	ARTCR 170—Ceramics, I
6	Total
HOURS	ART EDUCATION
2	ARTED 204—Art Education Laboratory
4	ARTED 206—Practicum in Teaching Art
3	ARTED 207—Art Curriculum Development and Practicum in the Elementary Schools
9	Total
HOURS	HISTORY AND APPRECIATION OF ART
3	ART&D 140—Introduction to Art (required)
3	Choose one of the following:
3	ARTHI 115—Art Appreciation
3	ARTHI 116—Masterpieces of Art
6-9	Total

## CURRICULUM IN CRAFTS

### For the Degree of Bachelor of Fine Arts in Crafts

The curriculum in crafts requires 122 credit hours and emphasizes professional training for the development of the self-sustaining craftsman, the teacher of crafts, and the designer-craftsman in industry. The curriculum provides a choice of three areas of concentration: ceramics, glassworking, and metalworking. The emphasis within these areas of concentration is on the development of individual design capabilities and perceptions and upon the mastery of comprehensive technical skills. In conjunction with these individual areas of emphasis, each student is given experience in other craft media.

HOURS	GENERAL REQUIREMENTS
4	RHET 105 or 108—English composition
3	Composition II

18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
3	Quantitative reasoning
28	Total

**HOURS ART HISTORY**

4	ARTHI 111—Ancient and Medieval Art
4	ARTHI 112—Renaissance and Modern Art
6	Advanced art history
14	Total

**HOURS GENERAL ART AND DESIGN**

0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
12	Total

**MAJOR IN CERAMICS****HOURS REQUIRED COURSES**

6	ARTSC 151 and 152—Sculpture, I and II
4	ARTSC 125 and 126—Life Drawing (or ARTPA 143—Painting Composition I)

Select two:

3	ARTCR 160—Jewelry, I
3	ARTCR 170—Ceramics, I
3	ARTCR 288—Glass, I
19	Major sequence in ceramics: select from:
	ARTCR 170—Ceramics, I
	ARTCR 171—Ceramics, II
	ARTCR 270—Ceramics, III
	ARTCR 271—Ceramics, IV
	ARTCR 274—Ceramics, V
	ARTCR 275—Ceramics, VI
	ARTCR 374—Ceramics

6	Allied interests in sculpture or crafts
3	ARTSC 219—Seminar: Sculpture, Glass, and Ceramics
44	Total

**HOURS ELECTIVES**

6	General electives
18	Professional and technical electives
24	Total

**MAJOR IN GLASS****HOURS REQUIRED COURSES**

6	ARTSC 151 and 152—Sculpture, I and II
4	ARTPA 125 and 126—Painting, I and II

Select two:

3	ARTCR 160—Jewelry, I
3	ARTCR 170—Ceramics, I
3	ARTCR 288—Glass, I
19	Major sequence in glass
	Select from:
	ARTCR 288 and 289—Glass, I and II
	ARTCR 384—repeat for 8-10 hours

6	Allied interest in sculpture or crafts
3	ARTSC 219—Seminar in Sculpture, Glass, and Ceramics
44	Total

**HOURS ELECTIVES**

6	General electives
18	Professional and technical electives
24	Total

**MAJOR IN METALS****HOURS REQUIRED COURSES**

3	ARTGP 121—Drawing Theory
2	ARTGP 125—Life Drawing
6	ARTSC 151 and 152—Sculpture, I and II; or ARTID 133 and 134—Industrial Design Studio, I and II

3	ARTCR 170—Ceramics, I
3	ARTCR 288—Glass, I

Select one:

3	ARTCR 171—Ceramics, II
3	ARTCR 289—Glass, II
3	ARTCR 291—Individual Crafts Problems (Neon)
	Major sequence in metals

3	ARTCR 160—Jewelry, I
3	ARTCR 161—Jewelry, II
3	ARTCR 260—Jewelry, III
3	ARTCR 261—Jewelry, IV
4	ARTCR 262—Metal Technology (repeat twice)
5	ARTCR 264—Jewelry, V
5	ARTCR 265—Jewelry, VI
3	ARTCR 266—Enameling
3	ARTCR 263—Metalsmithing
52	Total

**HOURS ELECTIVES**

7	General electives (see college list)
9	Art and design electives
16	Total

**CURRICULUM IN GRAPHIC DESIGN****For the Degree of Bachelor of Fine Arts in Graphic Design**

The curriculum in graphic design requires 122 credit hours and prepares the student for entrance into the professional practice of visual communications. Studio work encompasses typography, image making, production techniques, and the process of communication planning.

**HOURS GENERAL REQUIREMENTS**

4	RHET 105 or 108—English composition
3	Composition II
18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
3	Quantitative reasoning
28	Total

**HOURS ART HISTORY**

4	ARTHI 111—Ancient and Medieval Art
4	ARTHI 112—Renaissance and Modern Art
6	Advanced art history
14	Total

**HOURS GENERAL ART AND DESIGN**

0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
12	Total

**HOURS GRAPHIC DESIGN**

3	ARTGD 300—Design History Survey
3	ARTGD 120—Visual Organization
3	ARTGD 130—Production
3	ARTGD 140—Typography
3	ARTGD 210—Digital Imaging
3	ARTGD 220—Image Making
3	ARTGD 230—Advanced Typography
3	ARTGD 240—Methodology
3	ARTGD 360—Sequential Design
4	ARTGD 370—Advanced Graphic Design, I
4	ARTGD 380—Advanced Graphic Design, II
35	Total

**HOURS ELECTIVES**

15	General electives (see college list of approved electives)
18	Art and design and other professional electives
33	Minimum electives requirement total

**CURRICULUM IN THE HISTORY OF ART****For the Degree of Bachelor of Fine Arts in the History of Art**

The curriculum in the history of art requires 122 credit hours and offers a broad cultural education that unites academic and studio training. The curriculum provides sound preparation for the graduate study required for museum work or teaching at the college level.

**HOURS GENERAL REQUIREMENTS**

4	RHET 105 or 108—English composition
3	Composition II
18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
28-46	Electives (see college list of approved electives) (One foreign language through the 104 level or equivalent is required. French or German is strongly recommended.)
6	Supportive electives (in addition to the general education requirements, a minimum of 6 hours can be chosen with the consent of the adviser in one of the following areas: ancient and modern literature, anthropology, classics, history, philosophy)
3	Quantitative reasoning
53-71	Total

**HOURS SUPPORTING REQUIREMENTS IN ART**

4	ARTHI 111—Ancient and Medieval Art
4	ARTHI 112—Renaissance and Modern Art
0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
10-16	Art electives
30-36	Total



<b>HOURS</b>	<b>ADVANCED ART HISTORY</b>
18-36	Advanced art history

## CURRICULUM IN INDUSTRIAL DESIGN

### For the Degree of Bachelor of Fine Arts in Industrial Design

The curriculum in industrial design requires 130 credit hours and provides education in three-dimensional design for production, to meet the needs of people and their environment. Emphasis is placed on the awareness of the market demand for design, cognizance of methods and materials of production and their relative costs, creation of designs that are in visual harmony with their environment and that are satisfying to the consumer, and responsiveness to the changes in technology and cultural patterns.

<b>HOURS</b>	<b>GENERAL REQUIREMENTS</b>
4	RHET 105 or 108—English composition
3	Composition II
6	Humanities and the arts
6	Social and behavioral sciences
6	Natural sciences and technology
3	Quantitative reasoning
28	Total
<b>HOURS</b>	<b>ART HISTORY</b>
4	ARTH111—Ancient and Medieval Art
4	ARTH112—Renaissance and Modern Art
3	ARTGD 300—Design History Survey
3	Advanced art or architecture history
14	Total
<b>HOURS</b>	<b>GENERAL ART AND DESIGN</b>
0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
4	ARTGP 121 and 122—Design Drawing, I and II
3	ARTGD 120—Visual Organization
3	ARTPH 115—Photography for Industrial Designers
22	Total
<b>HOURS</b>	<b>INDUSTRIAL DESIGN</b>
6	ARTID 133 and 134—Industrial Design Studio, I and II
6	ARTID 135 and 136—Model Making, I and II
2	ARTID 175—Design Methodology
4	ARTID 210 and 211—Design Methods, I and II
3	ARTID 270—Presentation Techniques
4	ARTID 271 and 272—Materials and Processes, I and II
6	ARTID 275 and 276—Industrial Design Studio, III and IV
6	ARTID 277 and 278—Industrial Design Studio, V and VI
2	ARTID 280—Professional Practices
3	ARTID 371—Computer Techniques in Design
44	Total
<b>HOURS</b>	<b>ELECTIVES</b>
8	Technical electives from approved list, minimum
5	Art electives
5	General electives (see college list of approved electives)
22	Total
<b>HOURS</b>	<b>TECHNICAL ELECTIVES</b>
3	ADV 281—Introduction to Advertising
4	ARCH 251—Statics and Dynamics
4	ARCH 252—Strength of Materials and Design Applications
3	ARCH 323—Social and Behavioral Factors for Design
3	ARTID 371—Computer Applications in Design, I
3	B ADM 202—Principles of Marketing
3	B ADM 210—Management and Organizational Behavior
3	B ADM 247—Introduction to Management
3	B ADM 320—Marketing Research
3	B ADM 344—Buyer Behavior
3	COMM 220—Communications and Popular Culture
2	C S 101—Introduction to Computing for Application to Engineering and Physical Science
3	C S 103—Introduction to Computing with Application to Social and Behavioral Sciences
3	Mathematics (calculus or analytic geometry)
3	PHYS 140—Practical Physics: How Things Work
3	PHYS 150—Physics and the Modern World
4	PHYS 305—Principles of Ergonomics
3	PSYCH 356—Human Performance and Engineering Psychology

## CURRICULUM IN PAINTING

### For the Degree of Bachelor of Fine Arts in Painting

The curriculum in painting requires 122 credit hours and provides extensive training in preparation for professional practice as an artist.

The first year is devoted primarily to the study of design, composition, and the acquisition of both representational and abstract drawing skills. The second year concentrates on introducing the student to beginning painting skills and techniques with further studies in drawing and composition. The last two years are devoted to the development of individual creative expression in painting and other media.

When followed by a program leading to a degree of master of fine arts in painting, this curriculum is recommended as preparation for a career as an artist and as a teacher of painting and drawing and related subjects at the college level.

<b>HOURS</b>	<b>GENERAL REQUIREMENTS</b>
4	RHET 105 or 108—English composition
3	Composition II
18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
3	Quantitative reasoning
28	Total
<b>HOURS</b>	<b>ART HISTORY</b>
4	ARTH111—Ancient and Medieval Art
4	ARTH112—Renaissance and Modern Art
6	Advanced art history
14	Total
<b>HOURS</b>	<b>GENERAL ART AND DESIGN</b>
0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
12	Total
<b>HOURS</b>	<b>PAINTING</b>
4	ARTPA 125 and 126—Life Drawing, I and II
6	ARTPA 141 and 142—Beginning Painting, I and II
4	ARTPA 143 and 144—Painting Composition I and II
2	ARTPA 219—Current Art Issues
6	ARTPA 225 and 226—Intermediate Drawing
6	ARTPA 231 and 232—Intermediate Composition
6	ARTPA 233 and 234—Advanced Composition
3	ARTPA 245 and 246—Advanced Painting and Drawing
6	Printmaking course
43	Total
<b>HOURS</b>	<b>ELECTIVES</b>
10	General electives (see college list of approved electives)
15	Professional electives
25	Total

## CURRICULUM IN PHOTOGRAPHY

### For the Degree of Bachelor of Fine Arts in Photography

The curriculum in photography requires 122 credit hours; its purpose is to encourage the study of photographic media for personal expression, to explore the social implications of pictures, and to develop the skills needed for careers in photography. General art requirements and electives provide a broad foundation in the visual arts, and photography courses provide a strong background in the history, theory, and practice of photography as art.

A graduating senior will be required to complete a portfolio of photographs under the supervision of a photography faculty adviser. Students must provide certain materials in all photography studio classes. These include film, paper, and a fully adjustable 35mm or 120 roll film camera.

<b>HOURS</b>	<b>GENERAL REQUIREMENTS</b>
4	RHET 105 or 108—English composition
3	Composition II
18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
3	Quantitative reasoning
28	Total
<b>HOURS</b>	<b>ART HISTORY</b>
4	ARTH111—Ancient and Medieval Art
4	ARTH112—Renaissance and Modern Art

3	ARTHI 357—History of Photography
3	Advanced art history
14	Total
<b>HOURS</b>	<b>GENERAL ART AND DESIGN</b>
0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
12	Total

<b>HOURS</b>	<b>PHOTOGRAPHY</b>
3	ARTPH 115—Basic Photography
3	ARTPH 215—Photography, I
3	ARTPH 216—View Camera and Studio
6	ARTPH 315—Photography, III
6	ARTPH 316—Advanced Photography
3	ARTPH 220—Color Photography
6	ARTPH 350—Photography Seminar
30	Total

<b>HOURS</b>	<b>PHOTOGRAPHY ELECTIVES</b>
variable	(choose a minimum of 12 hours of credit)
3	ARTPH 291—Individual Photography Problems
3	ARTPH 330—Alternative Processes
3	ARTPH 331—Digital Photography
3	ARTPH 360—Video for Artists, I
3	ARTPH 361—Video for Artists, II
3	ARTPH 398—Photography Workshop
12-17	Total

<b>HOURS</b>	<b>ELECTIVES</b>
12-17	Professional electives
	(Art and design courses other than photography)
9	General electives (see college list of approved electives)
21-26	Total

## CURRICULUM IN SCULPTURE

### For the Degree of Bachelor of Fine Arts in Sculpture

The curriculum in sculpture requires 122 credit hours and provides a broad and solid foundation in the fundamental disciplines of drawing, design, and painting, including both traditional and contemporary concepts. The learning of the time-honored techniques of sculpture such as modeling and carving is required, and experimentation with welding, metal casting, and plastics is fostered. The student is encouraged to experience a wide range of materials, techniques, methods, and styles.

<b>HOURS</b>	<b>GENERAL REQUIREMENTS</b>
4	RHET 105 or 108—English composition
3	Composition II
18	One approved sequence of 6 hours in each of the following areas: humanities and the arts, natural sciences and technology, and social and behavioral sciences
3	Quantitative reasoning
28	Total
<b>HOURS</b>	<b>ART HISTORY</b>
4	ARTHI 111—Ancient and Medieval Art
4	ARTHI 112—Renaissance and Modern Art
6	Advanced art history
14	Total

<b>HOURS</b>	<b>GENERAL ART AND DESIGN</b>
0	ARTGP 113—Orientation to Art and Design
6	ARTGP 117 and 118—Drawing, I and II
6	ARTGP 119 and 120—Design, I and II
4	ARTPA 125 and 126—Life Drawing
6	Choose two of the following:
	ARTPA 141 and 142—Beginning Painting, I and II
	ARTPA 143—Painting Composition
	ARTSC 228—Introduction to Handmade and Cast Paper
6	Choose two of the following:
	ARTCR 160—Jewelry, I
	ARTCR 170—Ceramics, I
	ARTCR 288—Glass, I
28	Total

<b>HOURS</b>	<b>MAJOR SEQUENCE IN SCULPTURE</b>
	Qualified students are encouraged to arrange special projects in conjunction with advisers.
6	ARTSC 151 and 152—Sculpture
2	ARTSC 219—Current Issues in Sculpture, Glass, and Ceramics

4	ARTSC 253 and 254—Intermediate Sculpture, I and II
6	ARTSC 255 and 256—Sculpture Materials and Techniques, I and II
4	ARTSC 257 and 258—Advanced Sculpture, I and II
6	ARTSC 259 and 260—Advanced Sculpture Materials and Techniques, I and II
3	ARTSC 290—Senior Honors in Sculpture
31	Total
<b>HOURS</b>	<b>ELECTIVES</b>
18	General electives (see college list of approved electives)
3	Professional and technical electives
21	Total

## DEPARTMENT OF DANCE

4-501 Krannert Center for the Performing Arts  
500 South Goodwin  
Urbana, IL 61801  
(217) 333-1010

The Department of Dance is an autonomous unit in the College of Fine and Applied Arts, and, as such, is unique within the state. The resident dance faculty of seven full-time and one part-time member is augmented by visiting artists-in-residence. There are approximately forty-five undergraduate and fifteen graduate students enrolled in the major program. The teaching staff includes graduate teaching assistants who teach classes in modern dance, ballet, jazz, and tap for nondance majors.

Program focus at the graduate and undergraduate levels is on the professional preparation of performers, choreographers, and studio teachers. Two degree programs are offered, leading to the bachelor of fine arts and master of fine arts degrees. This is primarily a contemporary dance department in choreographic and performance focus. Ballet and contemporary technique are integral components of training; classes in jazz, tap, and theatre dance are also included in the major curriculum. Admission is by audition.

The Department of Dance is located in the Krannert Center for the Performing Arts and utilizes the exceptional performing and production resources of the center. Four department concerts per year are produced in the theatres of the Krannert Center, including two concerts of student choreography. Numerous opportunities for performance exist with the Illinois Dance Theatre, in faculty and student concerts, and in new music concerts and opera productions at the Krannert Center.

## CURRICULUM IN DANCE

### For the Degree of Bachelor of Fine Arts in Dance

The B.F.A. curriculum in dance is an intensive program of study for the dedicated student, offering concentration in the areas of technique, composition, and performance. The curriculum also includes requirements in production, improvisation, music theory and literature for dance, teaching, history, movement sciences, Alexander technique, theatre dance, and repertory. Electives may be taken in ballet, modern, tap, and jazz; advanced improvisation; labanotation; accompaniment; choreographer-composer workshop; and independent study.

Program requirements include core daily technique classes consisting of three modern and two ballet classes per week each semester in residence, plus elective technique classes for a minimum of 1 additional credit hour per semester. A minimum of two courses in other dance forms (jazz, tap, ballroom, etc.) is required. Technique placement is assigned by the faculty, and majors must achieve the advanced technical level in modern and the intermediate level in ballet for a minimum of two semesters prior to graduation. The improvisation/composition sequence consists of a minimum of 11 hours of studio courses culminating in the performance of a senior choreographic project. A minimum of 6 hours of credit is required in performance/repertory courses. The curriculum includes as much as 31 hours of credit in professional electives, which may be taken in professional dance courses and/or related arts and sciences.

Evaluation of majors is an ongoing process. Continued enrollment in the program is contingent upon satisfactory performance. A student is expected to maintain a minimum 3.75 grade-point average in all professional course work and a 4.0 cumulative average in studio classes in order to remain in good standing in the department.

It is possible for transfer students to complete degree requirements in a three-year period contingent upon prior completion of general education requirements and the fulfillment of the advanced technique requirement for two semesters prior to graduation.

A total of 130 hours is required for this degree.

HOURS	GENERAL EDUCATION
4-6	RHET 105 or equivalent
6	Humanities and the arts <sup>1</sup>
6	Social and behavioral sciences <sup>1</sup>
6	Natural sciences and technology <sup>1</sup>
3	Quantitative reasoning
25-27	Total
HOURS	PROFESSIONAL COURSES IN DANCE
34	TECHNIQUE (minimum number of hours)
	DANCE 160—Modern Technique, I
	DANCE 166—Ballet, I
	DANCE 260—Modern Technique, II
	DANCE 266—Ballet, II
	DANCE 360—Modern Technique, III
	DANCE 366—Ballet, III
	4 credit hours per semester, to include core technique classes each semester in residence, consisting of three modern and two ballet classes per week (3 hours of credit), plus elective technique courses for a minimum of 1 additional credit hour per semester.
	A minimum of two courses (2 credit hours) in other dance forms (jazz, tap, ballroom, etc.) is also required.
2	IMPROVISATION
	DANCE 162—Improvisation, I
	DANCE 163—Improvisation, II
9	COMPOSITION
	DANCE 164—Beginning Composition
	DANCE 264—Intermediate Composition
	DANCE 365—Advanced Composition
	DANCE 298—Senior Project
4	PRODUCTION
	DANCE 131 and 331—Production Practicum (1 hour per laboratory for a total of 4 hours)
6	MUSIC FOR DANCE
	DANCE 168—Music Theory and Practice for Dance
	DANCE 269—Music Literature for Dance
3	DANCE EDUCATION
	DANCE 350—Teaching Workshop
3	CURRENT ISSUES AND TOPICS
	DANCE 150—Orientation to Dance
	DANCE 295—Career Seminar
6	DANCE HISTORY
	DANCE 340—History of the Dance, I (Composition II)
	DANCE 341—History of the Dance, II (Composition II)
6	REPERTORY AND PERFORMANCE
	DANCE 130 and 330—Performance Practicum (1-2 hours per dance)
	DANCE 335—Dance Repertory Workshop (2-4 hours)
4	DANCE SCIENCES
	DANCE 345—Dance Kinesiology and Somatics (4 hours)
77	Total
HOURS	ELECTIVES <sup>2</sup>
26-28	RECOMMENDED:
	Additional courses in ballet and modern technique:
	DANCE 160, 166, 260, 266, 360, 366 (up to 16 additional hours may be counted toward degree requirements) (1-2 per course)
1 (per dance)	DANCE 130—Performance Practicum <sup>3</sup>
1	DANCE 210—Jazz Dance
1	DANCE 220—Tap Dance
3	DANCE 240—African-American Dance and American Culture
3	DANCE 243—Creative Dance for Children
3	DANCE 300—Viewing Dance
1	DANCE 301—The Alexander Technique for Dancers
2	DANCE 312—Theatre Dance
2	DANCE 328—Choreographer-Composer Workshop
1-2 (per dance)	DANCE 330 and 335—(Performance and repertory courses) <sup>3</sup>
3	DANCE 347—Labanotation, I
3	DANCE 348—Labanotation, II
8	DANCE 351—Independent Study and Special Topics (maximum number of hours)
1	DANCE 369—Accompaniment for Dance
3	ARTHI 115—Art Appreciation
3	ARTCI 180—Introduction to Cinematography
3	MUSIC 133—Introduction to World Music
2	MUSIC 138—Group Piano for Non-Music Majors
2-3	MUSIC 181—Voice

3	THEAT 170—Fundamentals of Acting
3	THEAT 175—Improvisation in Acting
2	THEAT 291—Costume Design for Dance
4	THEAT 332—Stage Management
4	THEAT 340—Lighting Design for Dance
4	THEAT 355—History of the American Musical Theatre, I
4	THEAT 356—History of the American Musical Theatre, II
3	THEAT 372—Introduction to Theatre Management

1. See college-approved general education distribution lists.
2. A minimum of 7 hours of electives must be in the area of general electives (see college-approved list). A minimum of 8 hours must be in the area of professional electives. It is strongly recommended that dance majors consider professional electives outside the dance area itself.
3. A maximum of 16 hours may be accumulated toward degree requirements in DANCE 130, 330, and 335.

## DEPARTMENT OF LANDSCAPE ARCHITECTURE

101 Temple Hoyne Buell Hall

611 East Loreda Taft Drive

Champaign, IL 61820

(217) 333-0176

FAX: (217) 244-4568

The Department of Landscape Architecture offers a four-year undergraduate curriculum, leading to the professional degree of bachelor of landscape architecture. The degree is accredited by the American Society of Landscape Architects.

The curriculum is a balanced program of technical, design, and general education courses that equips the student with the necessary skills for entry-level professional practice in private offices or public agencies. Program requirements include design studio courses, and classes in plants and planting design, engineering, site construction, communication techniques, computer-aided design, history, and theory. The curriculum includes a minimum of 15 hours of credit in supporting electives that are taken in related art and science courses. A total of 128 semester hours of credit are required for graduation.

A student must have and maintain a minimum 3.5 cumulative grade-point average to continue beyond the sophomore-level year. Transfer applicants must have completed 30 or more semester hours of undergraduate course work with an earned GPA of at least 3.5 (A = 5.0).

The department's administrative office, upper-level studios, faculty offices, and classrooms are located in Temple Buell Hall. The sophomore studio and departmental library are located in Mumford Hall.

## CURRICULUM IN LANDSCAPE ARCHITECTURE

### For the Degree of Bachelor of Landscape Architecture

#### First year

HOURS	FIRST SEMESTER
2	LA 101—Introduction to Landscape Architecture
6	General education electives <sup>1</sup>
4	GEOG 103—Earth's Physical Systems <sup>2</sup>
4	RHET 105 or 108—Composition I
16	Total
HOURS	SECOND SEMESTER
3	LA 214—History of Landscape Architecture
3	LA 170—Introduction to Behavioral Factors in Design
3	PLBIO 102—Plants, Environment, and Man <sup>2</sup>
2-5	MATH 114 or 116—Trigonometry
3	General education elective
14-17	Total

#### Second year

HOURS	FIRST SEMESTER
5	LA 133—Basic Landscape Design
1	LA 150—Introduction to Environmental Factors in Design
3	LA 180—Design Communications, I
3	General education elective <sup>1</sup>
3	Supporting elective <sup>1</sup>
17	Total



HOURS	SECOND SEMESTER
5	L A 134—Site Design
3	L A 142—Landform Design and Construction
3	L A 181—Design Communications, II (Composition II)
3	Quantitative reasoning (see approved list)
3	Supporting elective <sup>2</sup>
17	Total

**Third year**

HOURS	FIRST SEMESTER
5	L A 235—Recreation and Community Design
4	L A 243—Site Engineering
3	HORT 201—Identification and Use of Woody Ornamentals, I
3	U P 101—Planning of Cities and Regions
15	Total
HOURS	SECOND SEMESTER
5	L A 236—Design Workshops, I
4	L A 244—Landscape Construction
3	HORT 202—Identification and Use of Woody Ornamentals, II
3	Supporting elective <sup>2</sup>
15	Total

**Fourth year**

HOURS	FIRST SEMESTER
5	L A 337—Regional Landscape Design
3	L A 252—Planting Design, I
6	Supporting electives <sup>3</sup>
3	Elective
17	Total
HOURS	SECOND SEMESTER
1	L A 246—Professional Practice
3	L A 253—Planting Design, II
5	L A 338—Design Workshops, II
5-8	Elective
14-17	Total

1. A minimum of 6 credit hours of approved general education electives is required in each of the areas of humanities and the arts, social and behavioral sciences, and natural sciences and technology for a minimum of 18 credit hours (see college-approved general education distribution list).

2. PLBIO 102 and GEOG 103 fulfill the natural sciences and technology general education requirement for this curriculum.

3. A minimum of 15 credit hours of professionally related courses selected from the department's recommended list of supporting electives is required, with a minimum of 3 credit hours in each of the categories of history, communications, techniques, and environment.

**SCHOOL OF MUSIC**

2134 Music Building  
114 West Nevada  
Urbana, IL 61801  
(217) 333-2620

The School of Music occupies the Music Building, Smith Memorial Hall, the Harding Band Building, the Music Annex, and space in the Krannert Center for the Performing Arts. These facilities include studios, classrooms, practice and rehearsal rooms, experimental electronic music and computer music laboratories, and a digital piano lab, as well as musical instruments, audio equipment, and several auditoriums used for concert, recital, opera, and musical theatre performances.

The Music Library is one of the largest collections of music items in America. The faculty and students of the school present approximately 350 concerts, recitals, and stage performances throughout the year, both on and off campus. In addition, visiting artists and scholars from throughout the world present master classes and lectures which complement the concert and academic offerings provided on the Urbana-Champaign campus.

The school offers two professional undergraduate degrees: the bachelor of music and the bachelor of science in music education. Undergraduate students whose musical interests are in the broad historical, cultural, and theoretical aspects of music (rather than professional training) may want to investigate the bachelor of arts degree offered through the College of Liberal Arts and Sciences, described on page 141. Graduate degrees are offered in a variety of fields of study at the master's and doctoral levels.

Bands, choral ensembles, orchestras, jazz bands, new music ensembles, world music ensembles, opera theatre, and many other musical organizations are open to music and nonmusic majors and members of the University and civic communities by audition. Private lessons and courses in history, theory, and music appreciation are open to all qualified students in the University.

All applicants for admission to the School of Music must apply to the University of Illinois and must also audition successfully on their major performance instrument or in voice. On-campus auditions are preferred, but taped auditions are acceptable under certain circumstances. In addition, applicants for majors in music composition-theory and history of music must submit original scores or other pertinent writings to substantiate their ability to pursue work in these areas. Applicants in music education must also complete an interview with the music education faculty.

For complete information concerning audition schedules, special admission requirements, and curricula, prospective students should contact the coordinator of undergraduate admissions, School of Music, 1114 West Nevada Street, Urbana IL 61801; (217) 244-0551.

**CURRICULA IN MUSIC****For the Degree of Bachelor of Music**

These curricula require 130 semester hours of credit for graduation. Required courses in humanities and the arts, social and behavioral sciences, natural sciences and technology, and electives must be chosen from the college elective and general education distribution lists starting on page 107.

Public performance is an integral part of the training in applied music, and all students, when sufficiently prepared, are required to participate in student recitals.

All students are required to enroll in at least one approved performance ensemble each semester in residence, with a maximum of 10 semester hours of ensemble applicable to their degree.

All students pursuing majors in this curriculum are required to successfully complete at least one course in conducting.

The sequences of classes given below are based on a typical four-year course of study but may be modified with an adviser's approval to meet the student's individual needs.

**INSTRUMENTAL MUSIC MAJOR**

Students may major in piano, organ, violin, viola, violoncello, double bass, flute, oboe, clarinet, saxophone, bassoon, trumpet or cornet, horn, euphonium, baritone, trombone, tuba, percussion, or harp.

A student enrolled in this program normally takes two applied subjects, one a major (32 semester hours) and the other a minor (8 semester hours). Third- and fourth-year students must present satisfactory public junior and senior recitals as part of the requirements for the bachelor of music degree.

**First year**

HOURS	FIRST SEMESTER
4	Major applied music subject <sup>1</sup>
2	Minor applied music subject
3	MUSIC 101—Fundamentals of Music Theory and Practice, I
2	MUSIC 110—Basic Music Literature
1	Music ensemble
3-4	Composition I; or SPCOM 111
15-16	Total
HOURS	SECOND SEMESTER
4	Major applied music subject <sup>1</sup>
2	Minor applied music subject
2	MUSIC 102—Music Theory and Practice, II
2	MUSIC 107—Aural Skills, I
1	Music ensemble
5-6	Composition II; SPCOM 112; or electives
16-17	Total

**Second year**

HOURS	FIRST SEMESTER
4	Major applied music subject <sup>1</sup>
2	Minor applied music subject
2	MUSIC 103—Music Theory and Practice, III
2	MUSIC 108—Aural Skills, II
3	MUSIC 213—History of Music, I
1	Music ensemble
4	Foreign language
18	Total

HOURS	SECOND SEMESTER
4	Major applied music subject <sup>1</sup>
2	Minor applied music subject
3	MUSIC 104—Music Theory and Practice, IV
1	MUSIC 109—Aural Skills, III
3	MUSIC 214—History of Music, II
1	Music ensemble
4	Foreign language
18	Total

**Third year**

HOURS	FIRST SEMESTER
4	Major applied music subject <sup>1,2</sup>
3	Music theory <sup>1</sup>
3	Music history <sup>1</sup>
1	Music ensemble
5	Electives
16	Total

HOURS	SECOND SEMESTER
4	Major applied music subject <sup>1,2</sup>
3	Music theory <sup>1</sup>
3	Music history <sup>1</sup>
1	Music ensemble
5	Electives
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
4	Major applied music subject <sup>1,2</sup>
2	MUSIC 330—Applied Music Pedagogy, or MUSIC 331—Piano Pedagogy, I <sup>1</sup>
1	Music ensemble
9	Electives
16	Total

HOURS	SECOND SEMESTER
4	Major applied music subject <sup>1,2</sup>
2	MUSIC 330—Applied Music Pedagogy, or MUSIC 332—Piano Pedagogy, II <sup>1</sup>
1	Music ensemble
8	Electives
15	Total

1. Concurrent registration in MUSIC 250 is required for all students who register for any of MUSIC 183-186 and MUSIC 383-386.

2. String majors will register for MUSIC 269 (1 semester hour) concurrently with the major applied subject (3 semester hours), for a total of 4 semester hours each semester in the third and fourth years.

3. The music theory requirement for the third year is to be satisfied by MUSIC 300 and 308, 3 semester hours each, or by MUSIC 308, 6 semester hours, with each semester devoted to a specifically listed topic.

4. To be chosen from MUSIC 310-317, 333-337.

5. For string and piano majors only. String majors will register for MUSIC 330; piano majors will register for MUSIC 331 and 332. Other majors may choose 2 semester hours of electives.

**MUSIC COMPOSITION-THEORY MAJOR**

In this major, emphasis may be placed on music composition or on the theory of music. Necessary course adjustments require approval of the composition-theory division.

If the emphasis is on composition, the fourth-year student must present a satisfactory senior recital of original compositions. If the emphasis is on theory, an advanced project approved by the composition-theory division is required in the fourth year.

**First year**

HOURS	FIRST SEMESTER
2	Applied music <sup>1</sup>
3	MUSIC 101—Music Theory and Practice, I
2	MUSIC 106—Beginning Composition
2	MUSIC 110—Basic Music Literature
1	Music ensemble
3-4	Composition I; or SPCOM 111
2	Electives
15-16	Total

HOURS	SECOND SEMESTER
2	Applied music
2	MUSIC 102—Music Theory and Practice, II
2	MUSIC 106—Beginning Composition
2	MUSIC 107—Aural Skills, I
1	Music ensemble

5-6	Composition II; SPCOM 112; or electives
14-15	Total

**Second year**

HOURS	FIRST SEMESTER
2	Applied music
2	MUSIC 103—Music Theory and Practice, III
2	MUSIC 108—Aural Skills, II
2	MUSIC 200—Instrumentation
2	MUSIC 206—Intermediate Composition
3	MUSIC 213—History of Music, I
1	Music ensemble
4	French, German, or Italian
18	Total

HOURS	SECOND SEMESTER
2	Applied music
3	MUSIC 104—Music Theory and Practice, IV
1	MUSIC 109—Aural Skills, III
2	MUSIC 204—Compositional Problems: Serial Techniques
2	MUSIC 206—Intermediate Composition
3	MUSIC 214—History of Music, II
1	Music ensemble
4	French, German, or Italian
18	Total

**Third year**

HOURS	FIRST SEMESTER
2	Applied music
3	MUSIC 300—Counterpoint and Fugue
3	MUSIC 306—Composition
2	Music theory <sup>2</sup>
3	Music history <sup>3</sup>
1	Music ensemble
3	Electives
17	Total

HOURS	SECOND SEMESTER
2	Applied music
3	MUSIC 306—Composition
3	MUSIC 308—Analysis of Musical Form
2	Music theory <sup>2</sup>
3	Music history <sup>3</sup>
1	Music ensemble
3	Electives
17	Total

**Fourth year**

HOURS	FIRST SEMESTER
2	Applied music
3	MUSIC 302—Music Acoustics
3	MUSIC 306—Composition
2	Music theory <sup>2</sup>
1	Music ensemble
6	Electives
17	Total

HOURS	SECOND SEMESTER
2	Applied music
3	MUSIC 306—Composition
3	MUSIC 315—Music of the Twentieth Century
2	Music theory <sup>2</sup>
1	Music ensemble
3	Electives
14	Total

1. It is strongly recommended that students in this major acquire a thorough practical knowledge of the piano as part of the applied music study.

2. The music theory electives for the third and fourth years are to be chosen from MUSIC 301, 303, 304 (may be repeated to a maximum of 6 semester hours), 305, 307, 308 (may be repeated to a maximum of 6 semester hours in addition to MUSIC 308, sections D or E), 320 (may be repeated to a maximum of 4 semester hours; senior standing in music required), 321, 322, 328, and 345. If the curricular emphasis is in music theory, the following will apply: juniors will substitute an additional 3 semester hours of MUSIC 308 for MUSIC 306; seniors will take MUSIC 229, 301, and 305, and substitute an additional 300-level music history course for MUSIC 306.

3. To be chosen from MUSIC 310-314, 316, 317, 333-337.

4. Must include either section D (Music in the First Half of the Twentieth Century) or section E (Music Since World War II).

**HISTORY OF MUSIC MAJOR**

This major offers a broad cultural education that unites academic and musical training. It also provides preparation for the graduate study required for research and teaching in musicology or ethnomusicology.

The fourth-year student, working with an adviser, must complete a satisfactory thesis as part of the requirements for the bachelor of music degree.

**First year**

HOURS	FIRST SEMESTER
2	Applied music <sup>1</sup>
3	MUSIC 101—Music Theory and Practice, I
2	MUSIC 110—Basic Music Literature
1	Music ensemble
3-4	Composition I; or SPCOM 111
4	Electives
15-16	Total
HOURS	SECOND SEMESTER
2	Applied music
2	MUSIC 102—Music Theory and Practice, II
2	MUSIC 107—Aural Skills, I
1	Music ensemble
7-8	Composition II; SPCOM 112; or electives
14-15	Total

**Second year**

HOURS	FIRST SEMESTER
2	Applied music
2	MUSIC 103—Music Theory and Practice, III
2	MUSIC 108—Aural Skills, II
3	MUSIC 213—History of Music, I
1	Music ensemble
4	French or German <sup>2</sup>
2	Electives
16	Total
HOURS	SECOND SEMESTER
2	Applied music
3	MUSIC 104—Music Theory and Practice, IV
1	MUSIC 109—Aural Skills, III
3	MUSIC 214—History of Music, II
1	Music ensemble
4	French or German <sup>2</sup>
2	Electives
16	Total

**Third year**

HOURS	FIRST SEMESTER
2	Applied music
3	Music history <sup>3</sup>
3	MUSIC 300—Counterpoint and Fugue
1	Music ensemble
4	French or German <sup>2</sup>
3	Literature <sup>4</sup>
2	Electives
18	Total
HOURS	SECOND SEMESTER
2	Applied music
3	Music history <sup>3</sup>
3	MUSIC 308—Analysis of Musical Form
1	Music ensemble
4	French or German <sup>2</sup>
3	Literature <sup>4</sup>
2	Electives
18	Total

**Fourth year**

HOURS	FIRST SEMESTER
2	Applied music
3	Music theory <sup>3</sup>
3	Music history <sup>3</sup>
2	MUSIC 229—Thesis
1	Music ensemble
3	History <sup>4</sup>
1-2	Electives
15-16	Total
HOURS	SECOND SEMESTER
2	Applied music
3	Music theory <sup>3</sup>
3	Music history <sup>3</sup>

2	MUSIC 229—Thesis
1	Music ensemble
3	History <sup>4</sup>
1-2	Electives
15-16	Total

1. It is strongly recommended that students in this major acquire a thorough practical knowledge of the piano as part of the applied music study.
2. Two years in one language are required except with special permission of the student's adviser.
3. Third- and fourth-year music history courses are to be chosen from MUSIC 310-319, 333-337; however, a minimum of two courses must be chosen from MUSIC 310-315.
4. May not be used to satisfy general education sequence.
5. To be chosen from sections of MUSIC 306 and 308.

**VOICE MAJOR**

The primary applied subject in this major includes both private lessons in voice and classes in vocal dictation.

At least 8 semester hours each in the Italian, French, and German languages are required for the voice major. A student who has not completed at least two years of one of these languages in high school should begin study of languages during the first year.

Third- and fourth-year students must present satisfactory public junior and senior recitals as part of the requirements for the bachelor of music degree.

**First year**

HOURS	FIRST SEMESTER
3	MUSIC 101—Music Theory and Practice, I
2	MUSIC 110—Basic Music Literature
1	MUSIC 166—English Diction, or MUSIC 167—Italian Diction
3	MUSIC 181—Voice
1	Music ensemble
2	Piano
3-4	Composition I; or SPCOM 111
15-16	Total
HOURS	SECOND SEMESTER
2	MUSIC 102—Music Theory and Practice, II
2	MUSIC 107—Aural Skills, I
1	MUSIC 166—English Diction, or MUSIC 167—Italian Diction
3	MUSIC 181—Voice
1	Music ensemble
2	Piano
5-6	Composition II; SPCOM 113; or electives
16-17	Total

**Second year**

HOURS	FIRST SEMESTER
2	MUSIC 103—Music Theory and Practice, III
2	MUSIC 108—Aural Skills, II
1	MUSIC 168—German Diction, or MUSIC 169—French Diction
3	MUSIC 181—Voice
3	MUSIC 213—History of Music, I
1	Music ensemble
2	Piano
4	Foreign language
18	Total
HOURS	SECOND SEMESTER
3	MUSIC 104—Music Theory and Practice, IV
1	MUSIC 109—Aural Skills, III
1	MUSIC 168—German Diction, or Music 169—French Diction
3	MUSIC 181—Voice
3	MUSIC 214—History of Music, II
1	Music ensemble
2	Piano
4	Foreign language
18	Total

**Third year**

HOURS	FIRST SEMESTER
3	Music theory <sup>3</sup>
3	Music history <sup>3</sup>
1	MUSIC 366—Vocal Repertoire, I
3	MUSIC 381—Voice
1	Music ensemble
4	Foreign language
2	Electives
17	Total



HOURS	SECOND SEMESTER
3	Music theory <sup>1</sup>
3	Music history <sup>2</sup>
1	MUSIC 367—Vocal Repertoire, II
3	MUSIC 381—Voice
1	Music ensemble
4	Foreign language
1	Electives
16	Total

**Fourth year**

HOURS	FIRST SEMESTER
2	MUSIC 330—Applied Music Pedagogy
3	MUSIC 381—Voice
1	Music ensemble
4	Foreign language
5	Electives
15	Total

HOURS	SECOND SEMESTER
2	MUSIC 330—Applied Music Pedagogy
3	MUSIC 381—Voice
1	Music ensemble
4	Foreign language
5	Electives
15	Total

1. The music theory requirement for the third year is to be satisfied by MUSIC 300 and 308, 3 semester hours each, or by MUSIC 308, 6 semester hours, with each semester devoted to a specifically listed topic.
2. To be chosen from MUSIC 310-317, 333-337.

**OPEN STUDIES**

Open studies is available only to undergraduate students who have completed at least one semester in residence at the University of Illinois as a major in instrumental performance, history of music, composition-theory, voice, or music education. It allows concentration in diverse fields such as music of other cultures, jazz, or other areas and requires a minimum of 130 semester hours of credit for graduation.

Admission to open studies is initiated by petition to a committee of three faculty members, the open studies adviser, and the associate dean of the College of Fine and Applied Arts. Additional information may be obtained from the Office of Undergraduate Studies in Music, Music Building, Room 3030.

**CURRICULUM IN MUSIC EDUCATION****For the Degree of Bachelor of Science**

A minimum of 130 hours of credit is required for graduation. This curriculum prepares its graduates for teaching music in grades kindergarten through twelve. For teacher education requirements applicable to all curricula, see pages 43 to 46.

All students are required to enroll in at least one approved performance ensemble each semester in residence except the semester when they student teach.

HOURS	GENERAL EDUCATION COMPONENT
	(All courses must appear on the Council on Teacher Education Approved List)
9	Composition I; Composition II, and speech performance
3	American or English literature
3-4	American history
3	POI: S 150—American Government: Organization and Powers
3	Non-Western culture
3	General elective (to be chosen from literature and arts, historical and philosophical perspectives, or social perspectives)
3	Biological science <sup>1</sup>
3	Physical science <sup>1</sup>
3	One additional course to be chosen from biological or physical science <sup>1</sup>
3	Mathematics
4	PSYCH 100—Introduction to Psychology
2	Health and physical development
42-43	Total
HOURS	BASIC MUSICIANSHIP COMPONENT
12	Applied major
15	Music theory, sight-singing, and ear-training
8	Music history and literature

4	Ensemble
39	Total
HOURS	PROFESSIONAL/MUSIC EDUCATION COMPONENT
25	Courses in the area of professional specialization (choral, elementary-general, instrumental, or strings)
15	Music education practice <sup>1</sup> :
2	MUSIC 140—Introduction to Music Education
3	MUSIC 239—Principles and Techniques in Music Education
2	MUSIC 143—Pre-clinical Experiences
8-16	Student teaching <sup>1</sup>
40	Total
HOURS	EDUCATION COMPONENT
3	E P S 201—History and Philosophy of Education
3	EDPSY 211—Educational Psychology
6	Total
HOURS	PROFESSIONAL AND/OR GENERAL ELECTIVES
3	Total

1. One science course must include a laboratory.
2. If public school certification is not desired, the student selects alternative courses totaling 13 semester hours in consultation with his or her adviser, 7 semester hours of which must be from the student's applied major, music theory, or music history.
3. Only 8 hours of student teaching apply toward graduation.

**DEPARTMENT OF THEATRE**

4-122 Krannert Center for the Performing Arts  
500 South Goodwin Avenue  
Urbana, IL 61801  
(217) 333-2371

The curricular options in the Department of Theatre provide intensive and extensive preparation for the rigorous demands of a professional career in the theatre. A strong commitment to work in the theatre and a realistic understanding of its intellectual, aesthetic, and physical demands is therefore necessary in students who enter the department.

Before acceptance in the undergraduate programs in theatre, applicants must participate in one of several preadmission workshops, which take place at the Krannert Center for the Performing Arts five or more weekends each year, and at selected regional locations (normally, New York, Chicago, San Francisco, and Los Angeles). In these workshops, applicants who ultimately plan to pursue the curriculum in acting in their junior year should present a four-minute audition, comprised of two contrasting works from dramatic literature. Applicants who ultimately wish to pursue a curriculum in design, technology, or management should present a portfolio of previous theatre work. Applicants who intend to pursue the performance studies curriculum should also bring a portfolio of their previous theatre work, an original two-page script written specifically for the workshop, and any other written work that reflects the student's interests and accomplishments. Information on these workshops will be sent to applicants once their admissibility to the University has been determined by the Office of Admissions and Records.

Three curricula are offered in theatre: (1) the Professional Student in Acting, (2) the Performance Studies Curriculum, and (3) the Division of Design Technology and Management, which has specialized options in scene design, costume design and construction, theatre technology and lighting, and stage management. Students are formally admitted to these curricula only after an evaluation by the faculty during the students' second year. The programs in acting and theatre design, technology, and management are intended for students who, in the judgement of the faculty, are ready to concentrate in these specialties in an intensive undergraduate professional training curriculum. The performance studies curriculum is intended for students who plan to pursue advanced training in theatre history, criticism, directing, and playwrighting.

The Department of Theatre sponsors the Illinois Repertory Theatre, which is one of the resident producing organizations of the Krannert Center for the Performing Arts. Illinois Repertory Theatre produces eight fully mounted productions each academic year and three each summer. The theatres and workshops of the Krannert Center serve as laboratories for theatre students, who have the opportunity to learn and to work alongside an outstanding staff of resident theatre professionals and visiting artists, preparing performances in

theatre, opera, and dance. In addition, the department sponsors a small experimental theatre space for student-directed productions.

All theatre majors must successfully complete five production crew assignments at the Krannert Center under the THEAT 100—Practicum, I. Acting and performance studies students cast in Krannert Center productions may receive additional credit for their roles under THEAT 300—Practicum, II. Design, technology, and management students may receive credit for additional production duties at the Krannert Center under THEAT 300—Practicum, II. Students seeking credit for practical theatre work outside the Krannert Center must secure the approval and supervision of theatre faculty in the form of an Undergraduate Open Seminar (THEAT 199) or an Individual Project (THEAT 291 or THEAT 292).

## CURRICULA IN THEATRE

### For the Degree of Bachelor of Fine Arts in Theatre

A minimum of 128 hours of credit is required for the degree.

#### First year

HOURS	FIRST SEMESTER
2	THEAT 120—Basic Theatre Practice: Scenecraft
2	THEAT 121—Basic Theatre Practice: Costume Design and Technology
3	THEAT 170—Fundamentals of Acting
3	THEAT 178—The Arts of Theatre
4	RHET 105 or 108—Composition I
3	General education
17	Total
HOURS	SECOND SEMESTER
3	THEAT 109—Dramatic Analysis
2	THEAT 122—Basic Theatre Practice: Lighting
2	THEAT 123—Basic Theatre Practice: Makeup
3	THEAT 175—Improvisation in Acting, or THEAT 125—Graphic Skills
6	General education
16	Total

### PROFESSIONAL STUDIO IN ACTING

The acting program provides intensive training in a wide variety of performing media. In the first and second years, students take introductory courses in movement, voice, and acting. Near the end of their second year of study in the department, students must audition for acceptance into the professional studio in acting. In addition to successful completion of all classes in their first and second years, acceptance will be based on an evaluation of each student's potential for professional-caliber performance, commitment to theatre, and the necessary discipline for intensive study. Third- and fourth-year students meet in daily four-hour sessions, each of which includes sections in dynamics, voice and speech, movement, and acting. Semester-long acting sections include advanced scene study, musical theatre, Shakespeare, and acting for the camera. Students in the professional studio in acting must audition for Illinois Repertory Theatre productions and perform one role each semester if cast.

HOURS	GENERAL REQUIREMENTS
4	Composition I
4	Composition II (fulfilled by THEAT 110)
3	Quantitative reasoning
	General education
6	Humanities and the arts
6	Natural sciences and technology
6	Social and behavioral sciences
12	General electives
11	General and/or professional electives
48	Total
HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
3	THEAT 176—Relationships in Acting
3	THEAT 177—Acting: The Author, the Play, and the Role
2	THEAT 179—Acting: Voice
2	THEAT 182—Acting: Movement
8	THEAT 253—Acting Studio, I
8	THEAT 254—Acting Studio, II
8	THEAT 255—Acting Studio, III
8	THEAT 256—Acting Studio, IV
2	THEAT 300—Practicum, II
4	THEAT 361—Development of Theatrical Forms, I

4	THEAT 362—Development of Theatrical Forms, II
80	Total

### DIVISION OF DESIGN, TECHNOLOGY, AND MANAGEMENT

Students planning careers in professional theatre audio design, costume design, costume construction, lighting design, scene design, stage and theatre management, and theatre technology are selected for the options in this division by a process of faculty evaluation in their second year of study in the department. Criteria for acceptance and continuance in these options include satisfactory completion of all course work in the first and second years, potential for professional-caliber work, commitment to theatre, and the necessary discipline for intensive study and practice. Students in these options are assigned to teams that design, mount, and manage more than twenty productions annually in the Krannert Center for the Performing Arts.

HOURS	GENERAL REQUIREMENTS
4	Composition I
	Composition II (fulfilled by THEAT 110)
3	Quantitative reasoning
	General education
6	Humanities and the arts
6	Natural sciences and technology
6	Social and behavioral sciences
12	General electives
8-9	General and/or professional electives
45-46	Total

### Costume Design and Construction Option

HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
3	THEAT 225—Scene Design, I
6	THEAT 227—Senior Projects in Design, I
6	THEAT 228—Senior Projects in Design, II
3	THEAT 231—Introduction to Stage Lighting
3	THEAT 242—Introduction to Costuming
3	THEAT 336—History of Scene Design
3	THEAT 342—Costume Patterning
4	THEAT 343—Costume Draping
4	THEAT 345—Costume History for the Stage, I
4	THEAT 346—Costume History for the Stage, II
3	THEAT 347—Costume Rendering
4	THEAT 348—Costume Fabrication
4	THEAT 361—Development of Theatrical Forms, I
4	THEAT 362—Development of Theatrical Forms, II
82	Total

### Scene Design Option

HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
4	THEAT 223—Stage Mechanics, I
3	THEAT 225—Scene Design, I
3	THEAT 231—Introduction to Stage Lighting
3	THEAT 233—Stage Drafting
4	THEAT 325A—Advanced Scene Design, I
4	THEAT 325B—Advanced Scene Design, II
4	THEAT 326A—Advanced Scene Design, I
4	THEAT 326B—Advanced Scene Design, II
3	THEAT 336—History of Scene Design
2	THEAT 337—Scene Painting Techniques
2	THEAT 338—Rendering Techniques for the Stage
2	THEAT 339—Property Management and Design
4	THEAT 345—Costume History for the Stage, I
4	THEAT 346—Costume History for the Stage, II
4	THEAT 361—Development of Theatrical Forms, I
4	THEAT 362—Development of Theatrical Forms, II
82	Total

### Stage Management Option

HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
3	THEAT 199—Undergraduate Open Seminar: Management
3	THEAT 225—Scene Design, I
3	THEAT 230—Technical Direction
3	THEAT 231—Introduction to Stage Lighting
3	THEAT 281—Directing: Script Preparation
10	THEAT 300—Practicum, II

4	THEAT 332—Stage Management
4	THEAT 345—Costume History for the Stage, I
4	THEAT 346—Costume History for the Stage, II
3	THEAT 355—History and Development of American Musical Theatre, I
3	THEAT 356—History and Development of American Musical Theatre, II
4	THEAT 361—Development of Theatrical Forms, I
4	THEAT 362—Development of Theatrical Forms, II
3	THEAT 372—Introduction to Theatre Management
82	Total

### Theatre Technology and Lighting Option

HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
4	THEAT 223—Stage Mechanics, I
3	THEAT 225—Scene Design, I
3	THEAT 230—Technical Direction
3	THEAT 231—Introduction to Stage Lighting
3	THEAT 232—Advanced Stage Lighting
4	THEAT 233—Stage Drafting, I
3	THEAT 330—Theatre Sound Technology
4	THEAT 332—Stage Management
2	THEAT 337—Scene Painting Techniques
4	THEAT 346—Costume History for the Stage, II
4	THEAT 361—Development of Theatrical Forms, I
4	THEAT 362—Development of Theatrical Forms, II
13	All courses from one of the concentrations below:
	<b>TECHNOLOGY CONCENTRATION</b>
4	THEAT 224—Stage Mechanics, II
4	THEAT 323—Stage Mechanics, III
3	THEAT 331—Sound Design
3	THEAT 339—Property Management and Design
	<b>LIGHTING CONCENTRATION</b>
3	THEAT 334—Video Lighting and Production
4	THEAT 335—Lighting for the Musical Stage
4	THEAT 340—Lighting Design for Dance
3	THEAT 341—Sketching for Lighting Design
82-83	Total

### PERFORMANCE STUDIES CURRICULUM

The performance studies curriculum provides professional training in areas of theatre and related studies for which further advanced training or experience is necessary. The performance studies curriculum is intended to lay the groundwork for students planning to pursue professional careers in such areas as theatre history and criticism, directing, playwriting, and dramaturgy—areas in which a specialization at the graduate level is normally required. The performance studies curriculum provides both a working knowledge of a wide range of performance arts and a proficiency in research and writing skills associated with theatrical production and scholarship. Primary emphasis is given to students gaining a comprehensive knowledge of the drama and performance practices of the past and an understanding of current practice.

After successful completion of the second year of study, students are admitted into the performance studies curriculum after a review of their work by the performance studies curriculum committee. Requirements include residence at the University during the last sixty hours of the program.

HOURS	GENERAL REQUIREMENTS
4	Composition I
3	Composition II (fulfilled by THEAT 110)
	Quantitative reasoning
	General education
6	Humanities and arts
6	Natural sciences and technology
6	Social and behavioral sciences
15	General electives
20	General or professional electives (12 hours must be chosen from a list of approved supporting professional electives.)*
60	Total
HOURS	REQUIRED THEATRE CREDITS
20	Required first-year theatre courses
5	THEAT 100—Practicum, I
3	THEAT 110—Literature of the Modern Theatre
3	THEAT 176—Relationships in Acting, or THEAT 180—Oral Interpretation
3	THEAT 199—Playwriting
3	THEAT 281—Directing: Script Preparation
2	THEAT 291—Individual Topics

2	THEAT 292—Individual Topics
4	THEAT 332—Stage Management
3	One course to be chosen from:
	THEAT 225—Scene Design, I
	THEAT 231—Introduction to Stage Lighting
	THEAT 336—History of Scene Design
	THEAT 346—Costume Design for the Stage, II
4	THEAT 361—Development of Theatrical Forms, I
4	THEAT 362—Development of Theatrical Forms, II
6	Two courses to be chosen from:
	THEAT 351—History of Theatre in Western Society, I
	THEAT 352—History of Theatre in Western Society, II
	THEAT 355—History of the American Musical Theatre, I
	THEAT 356—History of the American Musical Theatre, II
	THEAT 365—History of the American Theatre
	THEAT 371—Contemporary Theatrical Forms
3	THEAT 372—Theatre Management
3	One course to be chosen from:
	THEAT 353—Creative Dramatics
	THEAT 354—Theatre for the Child Audience
	THEAT 375—Acting: Rehearsal Techniques
	THEAT 376—Oral Interpretation of Fiction
	THEAT 381—Directing: Rehearsal
68	Total

\*Supporting professional electives are approved by the performance studies curriculum committee. An up-to-date list of approved courses is on file in the Department of Theatre office. Currently approved supporting professional electives include the following courses:

Theatre: all courses, especially 199 (Non-Western Theatre Production), 263 (Theatre of the Black Experience), 351-352 (History of Theatre in Western Society, I and II), 353 (Creative Dramatics for Children), 354 (Theatre for the Child Audience), 355-356 (History of the American Musical Theatre, I and II), and 365 (History of American Theatre).  
 Anthropology: 244 (Anthropology of Play).  
 Asian Studies: 185 (Kabuki), 196 (Beijing Opera), 325 (Modern Japanese Drama).  
 Classical Civilization: 222 (The Tragic Spirit).  
 Dance: 340 (History of Dance, I), 341 (History of Dance, II), 346 (Theory and Philosophy of Dance).  
 English: 180 (Drama in Production), 243-244 (Development of Modern Drama, I and II), 316 (Drama of Shakespeare's Contemporaries), 318-319 (Shakespeare, I and II), 328 (English Drama of the Restoration and Eighteenth Century), 343 (Bernard Shaw), 368 (Comedy), 366 (Topics in Modern Drama).  
 German: 332 (German Drama).  
 Music: 265 (Opera-Musical Theatre).  
 Rhetoric: 199 (Playwriting).  
 Russian: 335 (Russian Drama).  
 Scandinavian: 361 (Ibsen), 362 (Strindberg).  
 Speech Communications: 203 (Dramatics for Teachers).

## DEPARTMENT OF URBAN AND REGIONAL PLANNING

111 Temple Hoyne Buell Hall  
 611 East Loreda Taft Drive  
 Champaign, IL 61820

The Department of Urban and Regional Planning offers a program leading to the degree of bachelor of arts in urban planning. Urban planning gives practical expression to human values. Its aim is to sustain and enhance the quality of life in cities and regions, to create the good society. Therefore, in addition to special technical skills, each student is helped to acquire a broad liberal education that leads to an understanding of the natural and social environments, their problems, and their potentialities for enriching human life. Undergraduate planning education leads to diverse professional employment careers or graduate study in urban planning or related professions. The degree is accredited by the Planning Accreditation Board.

A transfer student must have completed 30 or more semester hours of acceptable undergraduate college work (including introductory courses in economics, statistics, political sciences, and sociology; a sequence in English composition is desirable) with an earned grade-point average of at least 3.5 (A = 5.0). Transfer applicants not meeting these requirements will be considered in special cases.

The department's administrative offices, classrooms, and workshop space are located in Temple Hoyne Buell Hall.

The Department of Urban and Regional Planning also offers a program of graduate studies leading to the master of urban planning degree, dual degree programs with the master of architecture and the juris doctor degrees, and the doctor of philosophy degree in regional planning.



## CURRICULUM IN URBAN AND REGIONAL PLANNING

### For the Degree of Bachelor of Arts in Urban Planning

A minimum of 120 hours is required for this degree.

#### First and second years

HOURS	REQUIRED COURSES
60	From the following:
	RHET 105 or equivalent and Composition II.
6	Humanities and the arts
6	Natural sciences and technology
6	Social and behavioral sciences.
	An introductory course each in economics, sociology, and political science.
	Appropriate electives with no more than 20 semester hours in any one discipline, including the above.
HOURS	REQUIRED COURSES
3	U P 101—Planning of Cities and Regions
4	U P 116—Analytical Planning Research Methods
3	U P 203—Cities, Regions and Social Science
3	U P 205—Ecological Systems in Planning
3	U P 260—Urban Social Problems and Planning
16	Total

#### Third year

HOURS	FIRST SEMESTER
4	U P 212—Graphics and Written Communications for Planners (Composition II)
3	U P 316—Planning Analysis
3	Department elective <sup>1</sup>
3	Planning elective <sup>2</sup>
3	General elective <sup>3</sup>
16	Total
HOURS	SECOND SEMESTER
6	U P 247—Planning Workshop, I
3	Department elective <sup>1</sup>
3	Planning elective <sup>2</sup>
3	General elective <sup>3</sup>
15	Total

#### Fourth year

HOURS	FIRST SEMESTER
3	U P 301—Development of American Planning Thought
3	U P 308—Law and Planning Implementation
3	Planning elective <sup>2</sup>
6	General electives <sup>3</sup>
15	Total
HOURS	SECOND SEMESTER
6	Urban Planning Workshop, <sup>4</sup> or Independent Study
3	Department elective <sup>1</sup>
3	General elective <sup>3</sup>
3	Planning elective <sup>2</sup>
15	Total

1. A total of 9 hours of electives must be taken in Department of Urban and Regional Planning courses.

2. Planning elective courses totaling 12 hours must be chosen from courses taught in other departments (in addition to introductory courses listed under the first two years), with approval of departmental adviser. A list is maintained by the department.

3. General electives as needed to complete the total hours required are to be selected from the approved college list. Excess department and planning courses may be applied toward this requirement.

4. Urban planning workshop classes include U P 327, 347, 348, and 378.

### TEACHER EDUCATION MINOR IN URBAN STUDIES\*

Students electing the urban studies minor must consult with the head of the Department of Urban and Regional Planning.

A minimum of 21 hours of course work in urban and regional planning and urban studies (approved planning elective courses) is required for the completion of this minor.

\*This minor does not lead to endorsements in an additional teaching field.

## COLLEGE OF LIBERAL ARTS AND SCIENCES

270 Lincoln Hall  
702 South Wright Street  
Urbana, IL 61801

The College of Liberal Arts and Sciences (LAS) has four missions: scholarly inquiry and the generation of knowledge, preparation of individuals for an array of careers and professions, service to the public, and the provision of the intellectual core of the University. The college shares the first three missions with professional schools and other colleges on this campus, but the last mission is uniquely the responsibility of the College of Liberal Arts and Sciences. Fulfillment of that responsibility yields a diversified college uniquely valuable in contributing to the development of broadly educated individuals committed to or characterized by open inquiry, critical thinking, effective communication, and responsiveness to the needs of individuals and society.

The College of Liberal Arts and Sciences is the largest individual college within a university setting in the state of Illinois. The college offers seventy-three undergraduate and ninety-six graduate degree-granting programs and enrolls more than 40 percent of the undergraduates on the Urbana-Champaign campus. The college serves the entire campus by providing a full range of required general education and service courses in basic disciplines.

Students in the college are expected to understand the content and develop skills in areas that reflect the overall purpose of the college: fluency and facility in English; literacy in at least one foreign language; broad exposure to a number of different disciplines; and intensive study in one discipline (or an interdisciplinary program). The student has a wide choice of courses to satisfy these requirements; however, ultimately he or she must plan a diverse and intensive program of study, prepare for an occupational/professional and intellectual future, and develop that clarity and range of mind that is the goal of educated people.

### Degree Programs Available

The following degree programs are available in the College of Liberal Arts and Sciences:

#### SCIENCES AND LETTERS CURRICULUM

The sciences and letters curriculum comprises all of the traditional programs in the liberal arts and sciences. The curriculum requires in-depth study in one major as well as substantial experience in a number of other areas. A description of the components of the curriculum may be found beginning on page 126. The majors are:

- Actuarial science
- Anthropology
- Art history
- Astronomy
- Chemistry
- Classics (including Greek and Latin)
- Comparative literature
- East Asian Languages and Cultures
- Economics
- English
- Finance
- French
- Geography
- Geology
- Germanic languages and literature (including Scandinavian studies)
- History
- Humanities—options in American civilization, cinema studies, history and philosophy of science, medieval civilization, Renaissance studies
- Individual Plans of Study (IPS)
- Italian
- Latin American studies
- Life sciences—options in bioengineering, biophysics; cell and structural biology; ecology, ethology, and evolution; entomology; general biology; honors biology; microbiology; physiology; plant biology
- Linguistics
- Mathematics

Mathematics and computer science  
 Music  
 Philosophy  
 Physics  
 Political science  
 Portuguese  
 Psychology  
 Religious studies  
 Rhetoric  
 Russian and East European studies  
 Russian language and literature  
 Sociology  
 Spanish  
 Speech and hearing science  
 Speech communication  
 Statistics  
 Statistics and computer science

### SPECIALIZED CURRICULA

Specialized curricula are prescriptive programs that are offered as preprofessional study or preparation for graduate pursuits. These curricula include the teacher education curricula that lead to bachelor's degrees and state certificates for teaching. Although many of the general college requirements are similar to those in the sciences and letters majors, there are slight variations among them. The curricula are:

Biochemistry  
 Chemical engineering  
 Chemistry  
 Geology and geophysics  
 Physics

### TEACHER EDUCATION CURRICULA (SECONDARY)

Preparation for teaching at the secondary level is available in LAS through the following curricula.

Biology  
 Chemistry  
 Combined sciences and letters/Teaching of mathematics  
 Computer science  
 Earth science  
 English  
 French  
 German  
 Latin  
 Mathematics  
 Physics  
 Russian  
 Social studies  
 Spanish  
 Speech

### COMBINED DEGREE PROGRAMS

Students are able to combine study of an LAS discipline with other disciplines through the following three programs: LAS/Commerce, LAS/Engineering, and the IPS major in the sciences and letters curriculum.

### TRANSFER BETWEEN PROGRAMS

Students should be advised that they may have to satisfy specific GPA requirements for transfer into most specialized curricula and some majors. Contact an adviser or the LAS College Office (270 Lincoln Hall) for specific information.

### Requirements

#### ADMISSIONS

The general admission requirements and procedures of the College of Liberal Arts and Sciences are outlined in the Admission section (see page 11). These requirements were established to enable students admitted here to make the most effective use of the facilities of the University. The requirements should ensure that entering students have the capability of completing a degree program successfully.

While the admission patterns or high school subjects required for admission are necessary for the student to be able to compete successfully at this University, these requirements are minimal. Several other specific recommendations for high school subjects are listed below. The college urges prospective freshmen to seek as broad and as

rigorous a preparation as possible in high school. In particular, students should continue electing academic subjects throughout the senior year.

**English:** The college strongly recommends that students complete four full years of English in high school.

**Mathematics:** Although mathematics is not required in all degree programs in the college, many of the programs do require some mathematics. A minimum preparation is two years of algebra and one year of geometry; a fourth year of college preparatory mathematics is strongly encouraged. A solid foundation in mathematics will assist students in taking full advantage of educational opportunities at the University.

Beginning with the fall 1989 freshman class, students may not use credit in algebra (sometimes called "college algebra") toward LAS degrees; specifically, students may not use credit in MATH 112 or its equivalent toward LAS degrees. Please refer to the *LAS Student Handbook* for details.

**Science:** Some knowledge of science is necessary in our technology-oriented society. Students should elect at least two years of laboratory science in high school.

**Foreign language:** Because successful completion of four years of a single language in secondary school will satisfy the college foreign language degree requirement, students should include as much foreign language as possible in their secondary school programs. Those students who have not had some foreign language during the junior and senior years of high school may find it helpful to review the language before taking the placement examination after being admitted to the college.

### ADVISING

Academic advising is a critical resource for students in developing a program of study. Especially on a large campus, a continuing, committed association with a faculty member can be a valuable and rewarding part of the student's educational experience. Advisers are available to aid students in choosing majors, planning for career choices, and selecting courses for each semester. All students in degree programs in the college have academic advisers available in their major departments. In addition, the assistant and associate deans in the college assist students in handling a variety of problems and questions.

In order to simplify minor changes in course selections, a student who has successfully completed at least 30 semester hours of course work and who understands the requirements of the college and the University may choose courses without obtaining approval from an academic adviser unless informed otherwise by the college. A student does need to obtain approval from an adviser for a number of arrangements, including a formal plan of study for the major and the election of the credit-no credit grading option. A student may be requested by the college office to obtain approval from an adviser and/or the dean for all course changes under certain circumstances. It is very important for advanced students to confer with advisers on a regular basis; therefore, the college encourages all students to consult with their academic advisers at least once each year.

One particular resource for a student in the college who has not decided on a plan of study is the general curriculum. The general curriculum is an advising center for students who want to investigate a variety of subjects before selecting their majors or who have decided on programs that require transfer at the sophomore or junior level. The general curriculum is not a degree program and does not serve as a formal program of study. Entering freshmen and continuing students with less than 45 semester hours of credit may elect to enter the general curriculum and may remain in the program until they complete 56 academic semester hours. The office provides individual advising; group orientation sessions; and printed materials describing majors, curricula, and many career opportunities. Students in the general curriculum are LAS students and must follow LAS policies and regulations. The general curriculum office serves as the college office for students in the program.

Another special resource in the college is qualified advising for students who are interested in law school. An assistant dean in the college office (270 Lincoln Hall) counsels students who have declared a prelaw interest. All such students are encouraged to consult the prelaw adviser. Students preparing for law school may elect any major; they need not consider themselves restricted in the choice of degree programs. To assist students planning prelaw programs, a

faculty committee in the college has prepared a handbook for students on prelaw advising. For further information, contact the prelaw adviser at 270 Lincoln Hall.

## Honors Programs

### DEAN'S LIST

Each semester, students are recognized by the college for placement on the Dean's List. Those students are eligible who meet the following criteria and are in the top 20 percent of their classes. To be eligible for Dean's List recognition, you must have completed at least 14 hours of course work, excluding military and religious foundation courses and graduate-level courses taken for unit credit. Of these 14 hours, at least 12 hours must be earned in courses taken for traditional letter grades, which excludes courses graded credit/no credit, satisfactory/unsatisfactory, and test-based credit, which is graded pass/fail. Course work completed through study abroad may be included in determining Dean's List eligibility, subject to these same limitations. Students with work graded excused or deferred are not considered for the Dean's List until grades have been submitted for that work. These students should notify the honors dean when such work has been completed if they expect to be placed on the Dean's List.

### JAMES SCHOLAR PROGRAM

The official honors program in the College of Liberal Arts and Sciences is called the Edmund J. James Scholar Program. This program allows students with exceptional ability to pursue rigorous academic courses of study and provides the opportunity for those students to meet with faculty members who are particularly interested in honors programs. There are honors advisers available in the respective departments and an honors dean in the college office. James Scholars register in some special honors courses, sections, seminars, and colloquia; they may also arrange individualized honors credit agreements for specific courses. James Scholars have open access to the University Library stacks (ordinarily open only to graduate students and the faculty); such access to library stacks is particularly helpful for students involved in independent study and/or undergraduate research projects. James Scholars also have their program requests processed early to minimize conflicts in scheduling honors courses.

Any qualified LAS student may become a James Scholar Designate or Nominee. Entering freshmen who are in the top 15 percent of the admitted class are invited immediately into the program as James Scholar Designates. Each continuing student in the college must maintain a cumulative grade-point average of 4.5 and must complete two honors courses during the academic year. In order to remain in the program as James Scholar Nominees, students must satisfy the requirements for continuing students (i.e., 4.5 GPA and two honors courses). Official certification of James Scholar standing on the University transcript is made at the end of the academic year (upon completion of these requirements).

Further information about the James Scholar program is available from the college office, 270 Lincoln Hall.

### ROGERS MERIT SCHOLAR PROGRAM

The College of Liberal Arts and Sciences has established the Robert W. Rogers Merit Scholarship program for highly qualified freshmen. A freshman chosen as a Robert W. Rogers Scholar enrolls in any curriculum in the college and is awarded \$1,000 for the year; the award may be renewed for the sophomore year if the student maintains at least a 4.5 (A = 5.0) grade-point average and continues in the college. Admitted freshmen with the highest qualifications are invited to apply. The selection of a Rogers Scholar is made by a faculty committee and based on exceptional scholastic achievement, high performance on either the ACT or SAT examination, and evidence of leadership in the school or community. No more than twelve new awards are made each year.

### COHN SCHOLARS HONORS PROGRAM IN THE HUMANITIES

The Cohn Scholars Program provides intellectual and financial support and special academic opportunities for a small group of highly qualified freshmen majoring in the humanities. Each Cohn Scholar participates in a yearlong tutorial in his or her field of interest (or in a closely related field) with a faculty mentor from one of the humanities disciplines. The tutorial offers each student the opportunity to interact with a faculty member on an individual basis through intensive study in a selected subject.

Cohn Scholars also enroll in a two-semester course sequence in western civilization offered by the Department of History or the Program in Comparative Literature, with special discussion sections. Periodic seminars feature informal discussions among students and invited faculty members on selected topics. Cohn Scholars participate in special campus activities designed to acquaint them with some of the University's many academic and cultural resources.

Applications to the program are invited in early spring from highly qualified high school students who have been admitted for the following year to one of the humanities departments or programs in the College of Liberal Arts and Sciences. Potential students are selected by a faculty committee on the basis of an application, high school class rank, and performance in a competitive entrance examination (ACT or SAT). Inquiries should be addressed to the Cohn Scholars Program, College of Liberal Arts and Sciences, 294 Lincoln Hall, Urbana, IL 61801.

### HONORS AT GRADUATION

College honors at graduation are awarded on the basis of academic excellence and satisfaction of one of the following: (1) successful completion of 25 hours of honors courses (including work taken on honors credit learning agreements); (2) successful completion of 35 hours of advanced hours course work; or (3) earning departmental distinction. Provided that one of the requirements above is satisfied, the award of college honors is made according to the following ranges: cum laude, if the college grade-point average places a student in the top 12 percent of the graduating class but not in the top 7 percent; magna cum laude, if the college grade-point average places a student in the top 7 percent of the graduating class but not in the top 3 percent; and summa cum laude, if the college grade-point average places a student in the top 3 percent of the graduating class.

### DEPARTMENTAL DISTINCTION

Students who have shown exceptional competence in one or more areas of study may earn distinction in their major(s) or curricula. Criteria for awarding distinction are established by the departments. Students interested in working for distinction should consult their honors adviser early in the junior year. Specific information about requirements is available from the departmental and curriculum advisers. Generally, in addition to meeting the scholastic requirements and the minimum requirements for a major, a student graduating with departmental distinction must satisfy at least one of the following requirements: (1) presentation of an acceptable thesis; (2) satisfactory performance on a comprehensive examination prepared by the major department; or (3) completion of a special course of study of at least four semester hours approved by the major department.

A student who has completed a curriculum in teacher education and has shown superior ability in that area may be recommended for distinction in the teacher education program. Information about requirements may be obtained from the adviser in the area of specialization.

### PHI BETA KAPPA

Invitations for membership into Phi Beta Kappa, the nation's oldest honor society, are sent to outstanding students in Liberal Arts and Sciences each April. Eligibility requires rank in the top 7 percent of seniors in LAS, as well as a minimum number of graded hours and appropriate course distribution. Precise criteria and detailed information may be obtained from the chapter secretary, Dr. Susan Gonzon, Office of the Vice Chancellor for Academic Affairs, Swanlund Building, University of Illinois, 601 East John Street, Champaign, IL 61820, (217) 333-8159.

### AWARDS

There are a number of prizes and awards available to outstanding students in certain areas of the college. A department will generally notify the student of the possibility of such an award; however, an interested student may obtain information on the awards from the college office, 270 Lincoln Hall.

### Combined Degree Programs

#### LAS/ENGINEERING

For a number of years, the Colleges of Liberal Arts and Sciences and Engineering have jointly sponsored a five-year program leading to a B.A. or B.S. degree in liberal arts and sciences and a B.S. degree in a



field of engineering. The program allows motivated students to combine a professional engineering education with a broad liberal arts background. Students are required to complete all the degree requirements of both colleges.

Freshmen normally apply for entrance through the College of Engineering, but students who have applied to and been accepted by the College of Liberal Arts and Sciences may be able to enter the program. All students must meet the entrance requirements of both colleges. In addition, they may be required to meet the intercollegiate transfer requirements of both colleges. For further information about the program see page 85 and consult your college office.

#### LAS/COMMERCE

The College of Liberal Arts and Sciences together with the College of Commerce and Business Administration offers two joint-degree programs that lead to the degrees of B.A. or B.S. in liberal arts and sciences and M.A.S. or M.B.A. Each program takes five years to complete. These programs allow students to complete master's programs in accounting or business administration while they provide students with the broad opportunities unique to a liberal arts program. For further description, see page 164. Students interested in these opportunities should contact the College of Liberal Arts and Sciences, 270 Lincoln Hall for additional information and advising.

#### Study Abroad Programs

Many students in the College of Liberal Arts and Sciences seek the educational, linguistic, and cultural benefits from a semester or a year of study in a foreign country. To facilitate such study abroad, the College of Liberal Arts and Sciences sponsors a number of special study abroad programs and provides for student participation in these and other programs. There are three general categories of programs: (1) a program enabling students to study at approved foreign institutions of their choice; (2) special study abroad programs sponsored by units of the College of Liberal Arts and Sciences; and (3) participation in cooperative programs sponsored by other universities or groups of universities.

#### LAS STUDY ABROAD

The College of Liberal Arts and Sciences supports the Study Abroad Office to aid students who plan to study at approved foreign institutions or in programs of their choice other than those offered by departments within the college itself. The option is open not only to students in LAS, but also to students in other colleges within the University. A student's program for study abroad must have prior approval from the major department, the student's college, and the Study Abroad Office. Final determination of appropriate credit is made upon the student's completion of the work after returning to campus.

Students register in LAS 299 and may earn a maximum of 30 semester hours per academic year or 36 semester hours for the academic year, including summer study.

Interested students should contact the sponsoring academic department or the Study Abroad Office, University of Illinois at Urbana-Champaign, 115 International Studies Building, 910 South Fifth Street, Champaign, IL 61820.

#### FRENCH: YEAR ABROAD STUDY PROGRAM IN PARIS, FRANCE

Study abroad at one of three programs in Paris is available through the College of Liberal Arts and Sciences and the Department of French. The nine-month program emphasizes the study of French language, literature, and civilization. Options include working *au pair*, teaching English in a French high school, and studying business French at the Institut Catholique. A student does not need to be a French major to participate. The minimum requirements for participation are junior standing (or higher), a 3.5 (A = 5.0) University grade-point average, and a 3.5 grade-point average in French. Before leaving, students must complete three French courses at the 200 level, including FR 207 and either FR 209 or FR 210.

For purposes of credit, students participating in the Paris programs sponsored by the Department of French are treated as living in residence in Urbana.

Interested students should contact the Illinois Program in Paris, Department of French, University of Illinois at Urbana-Champaign, 2090 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 244-2723.

#### FRENCH: SUMMER STUDY IN QUEBEC

The University of Illinois participates in a six-week summer French program at Université Laval in Quebec, a program sponsored by the Committee on Institutional Cooperation (CIC). All students take courses to improve language skills. More advanced students may also take courses in French Canadian Literature and Civilization. Students earn six hours credit during the summer term. Participants should have at least one year of college French or the equivalent, and an overall grade-point average of 4.0 or higher (A = 5.0).

For purposes of credit, students participating in the CIC program sponsored by the Department of French are treated as being in residence in Urbana.

Interested students can obtain further information from the study abroad director, Department of French, University of Illinois at Urbana-Champaign, 2090 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### GERMAN: PROGRAM IN AUSTRIA

In cooperation with the Department of Germanic Languages and Literature, the College of Liberal Arts and Sciences sponsors a year abroad program in Vienna, Austria. In addition to courses in language, literature, and civilization taught by the program director, and commercial subjects taught at the Economics University in Vienna where the program is housed, students may elect courses at other university-level institutions in Vienna. Participants in the program should have at least a 3.75 (A = 5.0) University grade-point average, including a 4.0 grade-point average in German courses. Students accepted in the program should have language proficiency beyond the intermediate level (GER 104 or equivalent), although students need not be German majors.

Interested students should contact the Austria-Illinois Exchange Program, Department of Germanic Languages and Literatures, University of Illinois at Urbana-Champaign, 3072 Foreign Language Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### JAPANESE: YEAR ABROAD PROGRAM IN JAPAN

In cooperation with several other universities, the University of Illinois at Urbana-Champaign offers a Year-In-Japan Program on the campus of Konan University in Kobe, located in western Japan near Osaka and Kyoto. Students participating in the program receive an intensive course in Japanese language and an introduction to culture and society by combining classroom and independent study, home stay with a Japanese family, and opportunities for field trips and personal travel. Participants should have at least a 4.0 grade-point average and one year of Japanese language study or the equivalent. Students from other colleges and universities as well as beginning graduate students may participate in the program.

Interested students should contact the Year-In-Japan Program, Department of East Asian Languages and Cultures, 608 South Mathews Avenue, Urbana, IL 61801.

#### PORTUGUESE: SUMMER PROGRAM IN BRAZIL

The Department of Spanish, Italian, and Portuguese in cooperation with the Federal University of Pernambuco sponsors a six-week intensive Portuguese language institute in Recife, Brazil. Students are not required to have previous knowledge of Brazilian Portuguese; however, students who can study the language at their home institutions are encouraged to do so. Participating students will receive 6 hours of semester credit. The program is designed for undergraduates, but graduate students will also be given consideration.

The goals of the course are to expose students to Brazilian language and culture through home stays with local families, language classes at the university, and a series of lectures and excursions that highlight the rich cultural and historical realities of the northeast of Brazil. An optional internship in the student's area of specialization adds an additional cultural component to this program. Owing to the size of Brazil and the marked regional differences, students are encouraged to travel in small groups after classes have ended to experience the variety in this interesting country.

Interested students should contact the Study Abroad Office, 115 International Studies Building, 910 South Fifth Street, Champaign, IL 61820.

#### RUSSIAN PROGRAM IN ST. PETERSBURG

The University of Illinois participates in the cooperative Russian language program at St. Petersburg University under the auspices of the Council on International Educational Exchange. The program

consists of one or two semesters of study or one summer session. Students in the program study Russian language and literature, and classes are conducted in Russian by the university faculty. All students must have facility in the language, but the program is not limited to students majoring in Russian.

Interested students should obtain details and applications from the Study Abroad Office, University of Illinois at Urbana-Champaign, 115 International Studies Building, 910 South Fifth Street, Champaign, IL 61820.

#### **SPANISH: YEAR ABROAD PROGRAM IN SPAIN**

In cooperation with the Department of Spanish, Italian, and Portuguese, the College of Liberal Arts and Sciences sponsors a year abroad program in Spain. After a week's orientation in Madrid and a four-week intensive language program in Barcelona, students in the program study for two semesters at the University of Barcelona. Participants in the program should have at least 3.5 (A = 5.0) University grade-point averages and at least 4.0 grade-point averages in Spanish courses. Students accepted into the program must have completed the intermediate level in Spanish (SPAN 104 or its equivalent). At least one year of study in language and literature beyond the intermediate level is desirable for students to benefit fully from the program. The program is designed for juniors, however, seniors and qualified sophomores studying in other areas may apply. Interested students should contact the Department of Spanish, Italian, and Portuguese, University of Illinois at Urbana-Champaign, 4080 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### **SPANISH: SUMMER PROGRAM IN ARGENTINA**

The Department of Spanish, Italian, and Portuguese sponsors a six-week summer course at the University of Belgrano in Buenos Aires, Argentina from approximately the end of May to early July. Students are required to enroll in two courses, Spanish Language and Contemporary Argentine Literature or Spanish Language and Twentieth-Century Latin American History, for which they will receive 6 hours credit on their University of Illinois transcript. Weekend excursions to sites of historical and cultural interest are an important component of the program. Students are housed with Argentine families in various neighborhoods and suburbs of Buenos Aires, which provides them an excellent opportunity to experience Argentine culture and family life and to practice their Spanish language skills. A minimum of 4 semesters of college-level Spanish or equivalent and a cumulative University average of "B" are the basic requirements for admission. The program is open to undergraduates in any major who have at least junior standing and to graduate students.

Interested students should first contact the Study Abroad Office, 115 International Studies Building, 910 South Fifth Street, Champaign, IL 61820. For information regarding University course equivalencies, students may then contact Professor Thomas C. Meehan, Department of Spanish, Italian, and Portuguese, 4080 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### **SPANISH: SUMMER PROGRAM IN MEXICO**

The University of Illinois participates in the eight-week summer program of Spanish at the Universidad de Guanajuato, sponsored by the Committee on Institutional Cooperation. Students should be in good academic standing and have at least a 4.0 (A = 5.0) grade-point average in Spanish. Students accepted in the program should have competence in Spanish equivalent to the third year of college study.

Interested students should obtain further information from the Department of Spanish, Italian, and Portuguese, University of Illinois at Urbana-Champaign, 4080 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### **Opportunities for Multidisciplinary Study**

A number of opportunities for multidisciplinary study are available in the College of Liberal Arts and Sciences, and a number of units in the college are devoted to the multidisciplinary study of various areas, cultures, and subjects. Some of these units sponsor interdisciplinary majors; others do not have formal majors, but have arrangements for faculty members to assist students in planning programs appropriate to individual needs. Also, some units sponsor interdisciplinary minors that may be completed in conjunction with a sciences and letters curriculum degree program (i.e., a degree program with a traditional major in LAS). For details, see following information.

#### **MULTIDISCIPLINARY MAJORS**

There are three area studies programs with majors in the college: East Asian and Pacific Studies, Latin American and Caribbean Studies, and Russian and East European Studies. Descriptions of these majors may be found in the section on degree requirements for majors. (See also the section titled Curriculum in Sciences and Letters: General Requirements, below.)

#### **INFORMAL MULTIDISCIPLINARY OPPORTUNITIES**

The following units do not have formal degree programs; however, the units have interdisciplinary minors, assist students interested in those subjects, and coordinate research efforts in those areas.

#### **CENTER FOR AFRICAN STUDIES**

The Center for African Studies is concerned with all aspects of African affairs and cultures. The center sponsors instruction in African languages and cultures, offering a number of African studies courses each semester. The center administers an interdisciplinary minor for undergraduates, and an undergraduate major in African studies can be arranged through Individual Plans of Study (IPS). Support for graduate students and arrangements for field experiences in Africa are also concerns of the center. The Center for African Studies is located at 210 International Studies Building, 910 South First Street, Champaign, IL 61820.

#### **AFRO-AMERICAN STUDIES AND RESEARCH PROGRAM**

This program integrates interdisciplinary curricular offerings from the social sciences and the humanities, with a concentration on blacks in North America. The unit sponsors an interdisciplinary minor in the College of Liberal Arts and Sciences. The program offers a core set of courses in Afro-American studies along with additional courses cross-listed with other departments each semester. The Afro-American Studies office is located at 606 South Gregory Street, Urbana, IL 61801; (217) 333-7781.

#### **WOMEN'S STUDIES PROGRAM**

The Women's Studies Program is an interdisciplinary academic unit designed to teach, coordinate, and develop women's studies courses and advise undergraduate students. With over 40 affiliated faculty members, the program also initiates activities and programs to maintain and expand scholarship on women and gender issues. Goals and objectives include continuing to foster the development of both core and cross-listed course offerings encompassing the diversity of women's experiences, including a women and science/engineering component; developing an undergraduate major; continuing support for campuswide efforts to integrate scholarship on women and gender issues in general education courses; and increasing the visibility of women's scholarly contributions on campus and in the community. An additional vital aim is attracting more minority faculty and students.

The unit sponsors an interdisciplinary women's studies minor for students in the sciences and letters curriculum. For students completing a degree program in teacher education who want to be able to teach women's studies in primary and secondary schools, the unit has a teacher education minor in women's studies. Students who wish to develop individual minors in women's studies through Individual Plans of Study (IPS) may also obtain advising from the Women's Studies Program, located at 911 South Sixth Street, Champaign, IL 61820.

### **CURRICULUM IN SCIENCES AND LETTERS**

#### **DEGREES GRANTED**

A student completing this curriculum receives the degree of bachelor of arts or bachelor of science in liberal arts and sciences, depending on the student's major. A student electing one of the majors in the physical sciences, life sciences, psychology, mathematics, or statistics will receive the bachelor of science degree. A student in any of the other majors will receive the bachelor of arts degree.

#### **COMPONENTS OF THE CURRICULUM**

The sciences and letters curriculum consists of several distinct parts, all of which are considered by the college to be necessary for a liberal education. Below is an outline of the components of the degree program. A detailed discussion of each component follows.

## General Requirements

### ENGLISH COMPOSITION REQUIREMENT

The ability to write effectively is a cornerstone of a liberal education. All students in the sciences and letters curriculum must satisfy the campus rhetoric requirement. See pages 38 and 39 for a statement of the requirement. Students are strongly encouraged to include additional writing courses in their programs whenever possible.

### FOREIGN LANGUAGE REQUIREMENT

Each student in the sciences and letters curriculum is expected to learn a foreign language in the undergraduate program. A minimum expectation is that the student obtain a knowledge equivalent to the completion of the fourth semester of college study in a language. Some programs may require additional study or the study of a specific language. A student planning on graduate study may wish to consult the department of intended graduate study about language requirements for the graduate program. This may dictate the student's choice of language study during undergraduate work. The foreign language requirement may be met in any of the following ways:

1. Satisfactory completion of four years of the same foreign language in high school;
2. Satisfactory completion of the fourth-semester level of a language in college;
3. Satisfactory completion of the third-semester level in each of two languages by any combination of high school and college work;
4. Satisfactory performance at the fourth-semester level in a language proficiency examination approved by the College of Liberal Arts and Sciences and the appropriate department.

### GENERAL EDUCATION

General education courses are the foundation vehicle for the college's unique mandate: the provision of the intellectual core of undergraduate study at the University. Through these required courses, each student in the college is expected to obtain an understanding of the ways in which knowledge is acquired and used in the diverse disciplines represented by the University's curricula. The graduate must have some acquaintance with literature and the arts, history, philosophical inquiry, and the insights and techniques of the social sciences, as well as the aims and methods of the natural sciences.

Students are therefore required to complete broadly distributed course work in two general areas: one in the arts and social sciences, the other in mathematics and the sciences. Students must take at least ten courses: five in Area I (arts and social sciences) and five in Area II (mathematics and science). The specific list of the distribution of courses is given in Components of the Curriculum, page 126. The *LAS Student Handbook* provides a list of courses approved for each of the general education categories, and current lists may be obtained in the LAS Student Office, 270 Lincoln Hall, during advance enrollment.

The general education categories and their purposes are briefly described below, together with an abbreviated listing of some of the disciplines from which courses for these categories are drawn.

**Literature and the Arts.** To consider the literary, visual, and performing arts as aesthetic or creative achievements. (English, language departments, art history, music)

**Historical and Philosophical Perspectives.** To understand both the events and ideas of the past, thus acquiring a fresh perspective on the present; to understand the major philosophical issues that confront human beings. (Classical civilization, history, philosophy, religious studies)

**Social Perspectives.** To acquire an understanding of social contexts and institutions. (Anthropology, economics, geography, political science, sociology)

**Non-Western Cultures and Traditions.** To attain a broad awareness of the values and traditions of people from different cultures. (African studies, anthropology, Asian studies, history, religious studies)

**U.S. Minority Cultures.** To attain an understanding of the values and traditions of the diverse cultures of minority groups in the U.S.

**Biological Sciences.** To consider the structure and function of life forms, their ecological or their evolutionary relationships, and their importance to the human community. (Anthropology; biology, ecology, ethology, and evolution; entomology; microbiology; physiology; psychology)

**Physical Sciences.** To comprehend the major aspects of the physical world and to become conversant with the nature of scientific inquiry. (Astronomy, chemistry, geography, geology, physics)

**Behavioral Sciences.** To study individual human behavior. (Psychology)

**Mathematics.** To study a substantial mathematical endeavor or to explore the scientific and humanistic import of mathematics. (Mathematics, computer science, statistics)

Students are urged to consult with their advisers regarding the choice of courses to complement their programs and to meet educational objectives. Some of the approved courses have prerequisites.

#### NOTES:

- The credit-no credit option may not be used for courses that satisfy general education requirements.
- There are no limits on the number of courses from a single department that may be used to satisfy the requirements.
- Courses taken to satisfy major requirements may also be used to satisfy general education requirements provided they are on current general education lists.
- A student who successfully completes a College-Level Examination Program (CLEP) general examination in an area of study, using University of Illinois standards, will receive a waiver of the requirement in that area and, in certain cases, course credit. See the *LAS Student Handbook* for details.
- Students who receive college credit for Advanced Placement (AP) work will find that some course credit generally will apply toward the relevant requirement. For example, AP scores of 4 or 5 in English Literature will provide 3 semester hours of credit in English 103 and, therefore, count toward the requirement for literature and the arts. See page 29 for current credit policies for AP examinations.
- Similarly, proficiency credit received through a department's own testing program may be used to satisfy general education requirements.
- Students planning to study in specialized curricula or in teacher education curricula will be subject to the requirements as indicated elsewhere in this catalog rather than the above requirements.

### COMPONENTS OF THE CURRICULUM<sup>1</sup>

HOURS	REQUIREMENT	EXPLANATION
4-6	ENGLISH	Composition I: RHET 105, SPCOM 111, and 112; or equivalent
3		Composition II: one course designated as meeting the campus Composition II requirements
0-16	FOREIGN LANGUAGE	Completion of the fourth semester or equivalent of a language is required. (Completion of four years of a single language in high school satisfies this requirement.)
30	GENERAL EDUCATION <sup>2</sup>	Ten courses (at least 30 hours)*, including at least five in Area I (generally subjects in the arts and social sciences) and at least five in Area II (generally subjects related to the sciences)
	Area I	Literature and the arts 1-2 courses Historical and philosophical perspectives 1-2 courses Social perspectives 1-2 courses Non-Western cultures and traditions 1 course U.S. Minority Cultures 0-1 course Minimum of 5 courses
	Area II	Physical science 1-2 courses Biological science 1-2 courses Behavioral science 1-2 courses Mathematics <sup>3</sup> 1-2 courses Minimum of 5 courses
40-60	MAJOR	See requirements of majors beginning on page 128. Normally, courses for the major must be chosen in consultation (normally) with the departmental adviser. A 3.0 grade-point average in the major is required for graduation. At least 12 advanced hours in the core for the major must be taken on this campus.
	ADVANCED HOURS	The courses for the degree program must include at least 21 hours of courses designated as advanced (i.e., all 300-level courses and a few specially designated 200-level courses).



Enough to total at least 120 hours	<b>ELECTIVES</b>	Courses freely chosen (and not counting toward completion of the requirements above) subject only to the restriction that no more than 24 hours may be outside LAS.
	<b>RESIDENCE</b>	First 90 hours or last 30 hours on this campus. Last 60 hours at a 4-year school. At least 12 advanced hours in the core for the major must be taken on this campus.
At least 120 hours	<b>TOTAL FOR THE DEGREE</b>	

<sup>1</sup> Requirements are listed for students entering the University in fall 1995 or later. Students entering prior to fall 1995 should consult the college office.

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

3. The courses approved for this requirement satisfy the campus Quantitative Reasoning I requirement.

\*Students must also complete one course approved for Western cultures. This course can satisfy one of the Area I or II courses.

## MAJOR

Each student in the sciences and letters curriculum is expected to study a single discipline in some depth as well as obtain mastery of any related course work necessary for careful study of the chosen discipline. This portion of the student's program of study is called the major.

The major consists of approximately 40 to 60 hours of course work designated by the department and approved by the faculty of the college. Most majors will have a portion of the required course work in subjects relating to the major and supporting the major, but not chosen from courses in the major department; this is called the supporting course work. The major will have at least one-half of the course work selected or designated from courses numbered 200 and above.

There are forty majors from which students may choose, and a number of them have multiple options within the major. A complete list of the majors available can be found on pages 121 and 122. The major should be chosen no later than the junior year. Since most majors require that the student choose courses in consultation with a faculty adviser, students should plan to discuss the major with a faculty adviser early in the junior year. In most cases, a student will be expected to submit to the college a written list of courses for the major (the major plan) during the junior year.

Since the major is a required portion of the sciences and letters curriculum, students must take all course work for the minimum requirements of the major for a traditional letter grade (or on the satisfactory-unsatisfactory basis). The credit-no credit grading option may not be used for courses in the major.

The satisfactory completion of a major requires not only the completion of a stated amount of course work, but also that the student earn at least a 3.0 average in courses for the major. In order to graduate, a student should earn at least a 3.0 grade-point average in all courses that are included in the major average and taken on this campus and at least a 3.0 average in all courses that are included in the major average and taken here and elsewhere. Consult the department or the college office for a list of courses included in the major average for a specific concentration.

Each student is expected to complete a minimum amount of advanced course work for the major on this campus. Specifically, a student normally completes on this campus at least 12 hours of advanced core course work (course work within the department) in the major.

## ADVANCED HOURS REQUIREMENT

A liberal arts program requires study in a number of areas (general education requirements) and study in some depth. Thus, each student is expected to complete a minimum portion of the undergraduate program in courses that presume some prior knowledge of the discipline. A course is considered advanced if it presumes such prior knowledge as indicated by the faculty (specially designated 200-level courses), by the course number (most courses numbered 300 or above), by the prerequisites necessary for enrollment in the course, or by the quality and depth of work expected of students in the course.

All students in the sciences and letters curriculum are expected to complete at least 21 hours of courses designated as advanced by the college in order to graduate. All such courses must be taken at baccalaureate-granting institutions. Courses designated as advanced are those courses numbered 300 or above and those 200-level courses that are specially designated as advanced. A list of such advanced 200-level courses may be found in the *LAS Student Handbook*.

## MINORS AND INTERDISCIPLINARY MINORS

The college offers a formal system of minors which may be completed in conjunction with a major in the sciences and letters curriculum. A minor is a coherent program of study (generally 18-24 hours) requiring some depth in the subject, but is not as extensive as the major. Requirements for minors (see page 147) are determined by the department and approved by the college. Minors are optional. Students do not have to complete a minor as part of their degree requirements, though some majors may allow use of a minor in place of other supporting course work.

The minor may be completed and noted only at the time of completion of a bachelor's degree in LAS (in the sciences and letters curriculum). While the minor does not replace other degree requirements, courses may be used both for the minor and to meet other degree requirements as appropriate. The student should notify LAS of intention to complete a minor at the beginning of the student's senior year so that its completion may be verified. A list of requirements for approved minors is available in the *LAS Student Office*, 270 Lincoln Hall.

There are several interdisciplinary areas in which there currently are no formal degree programs, but in which scholarly needs or employment demands require recognition. In these areas, the college offers an interdisciplinary minor. The interdisciplinary minor differs from the standard minor in that it may require attainment of a predetermined and approved grade-point average in the courses for the program and students are required to consult with an adviser regarding selection of course work. The student should notify the unit of the interdisciplinary minor at the beginning of the student's final semester before graduation so that the completion of the interdisciplinary minor may be verified; the college generally cannot monitor completion of the interdisciplinary minor. Currently, the interdisciplinary minors are those in African Studies, Afro-American Studies, Latin American Studies, and Women's Studies.

## ELECTIVES

Most liberal arts majors allow time in the student's program for a number of courses chosen freely from among the University's offerings. These courses, called electives, may be used to prepare for professional study, to prepare for business and career opportunities, or simply to explore additional interests. In addition to all courses used to fulfill the minimum graduation requirements of the college (rhetoric, foreign language, general education, and major), a student following a major may use as electives:

- Courses offered by the College of Liberal Arts and Sciences;
- Courses offered by departments and schools in other colleges of the University that sponsor majors in LAS [art (excluding applied art courses), computer science, economics, finance, music (excluding applied music courses), or physics];
- A maximum of 24 hours (to be counted toward graduation) of courses not included in either of the above, that is, courses offered by departments and schools in other colleges on campus. Examples of courses in this category are accounting, business administration, engineering, applied art courses, and applied music courses. As of August 1994, the Department of Atmospheric Sciences is in the College of Liberal Arts and Sciences.

Undergraduate students of high academic standing (i.e., a 4.0 grade-point average or higher in courses taken beyond the sophomore level) within 10 semester hours of earning their bachelor's degrees may elect courses in the Graduate College for graduate credit with the consent of the dean of that college. Also, students with senior standing may petition the Graduate College for permission to elect graduate courses for undergraduate credit. Interested students should first consult the College of Liberal Arts and Sciences, 270 Lincoln Hall.

## RESIDENCE

Students must satisfy the University residence requirement for graduation (page 38). They must complete on this campus, uninterrupted by work elsewhere, either the first three years (at least 90 hours of course

work) or the last year (at least 30 hours). The hours must be applicable toward the degree sought. In addition, all students must earn 60 hours of course work at four-year (baccalaureate-granting) institutions after any work at community colleges. Students in the sciences and letters curriculum are expected to earn at least 12 hours of credit in advanced courses in the core for the major on this campus (see Advanced Hours Requirement, above).

### TOTAL HOURS

A total of 120 semester hours acceptable toward the degree is required for graduation in the sciences and letters curriculum.

Students should be aware that there are several specific limitations on the amount of particular kinds of credit that may be used in the 120 hours: no repeated courses; no more than 24 elective hours outside the college, as discussed above; no more than 4 hours of credit in basic kinesiology courses; no more than 11 hours of credit in calculus and analytic geometry; no more than 12 hours of credit in basic physics; no more than 15 hours of credit in 100-level life science courses toward an SOLS major; no more than 9 hours of credit in basic rhetoric courses; no more than 10 hours of first- and second-year foreign language proficiency; no more than 24 hours of credit in aviation courses (must be from the pilot training curriculum); no more than 6 hours of credit in ROTC courses; no more than 4 hours of credit in religious foundation courses; no more than 12 hours of credit in undergraduate open seminar (199 course); and no more than 18 hours of credit in independent study and 199 courses. See the *LAS Student Handbook* for details about the credit limitations in each of these areas.

Students matriculating at some college or university in June 1989 or later may not use credit in algebra (MATH 112 or equivalent) toward a baccalaureate degree in the College of Liberal Arts and Sciences. In addition, students in the programs requiring trigonometry for admission (e.g., the specialized curricula in chemical engineering, chemistry, and physics) may not use credit in trigonometry (MATH 114 or equivalent) toward an LAS degree. See the *LAS Student Handbook* for further details.

## SCIENCES AND LETTERS MAJORS

**For the Degree of Bachelor of Arts or Bachelor of Science in Liberal Arts and Sciences**

### ACTUARIAL SCIENCE

This major is sponsored by the Department of Mathematics. See page 140.

### ANTHROPOLOGY

**Anthropology Courses.** 36 hours (including ANTH 102, 103, 220, 230, 240, and 270).

**Supporting Course Work.** 18 hours (chosen in consultation with an adviser).

Anthropology, which views human biology, behavior and society (both past and present) in a cross-cultural perspective, combines scientific and humanistic interests in a modern social sciences framework. It includes of biological anthropology (biological diversity and evolutionary history of human and nonhuman primates), archaeology (human prehistory and the organization and growth of technology), sociocultural anthropology (comparative study of social structures and institutions from hunter-gatherer settings to urban settings), and anthropological linguistics (comparative study of languages and communications). Although the student should strive for a topical and geographical balance, an undergraduate may specialize in one of these four branches and also may study some world cultural area intensively through an area studies program. Anthropology is an appropriate major for those seeking a general liberal education; for those preparing for professional study and careers in law, medicine, or commerce; and for those planning further graduate study in anthropology. Professional anthropologists work as research scientists and teachers in museums, universities, and archaeological surveys or as staff members in government agencies, social service programs, and business firms in which international understanding of human and social concerns is important.

### REQUIREMENTS

The 36 hours in anthropology must include ANTH 102, 103 (or 104 for honors students), 220, 230, 240, and 270. Four courses totalling at least 12 hours in anthropology must be at the advanced level (generally 291, 293, and 300-level courses); only one of these four courses may be ANTH 398. All students must discuss their selection of anthropology courses and supporting course work with a departmental adviser. Students must take 18 hours of supporting course work in another department. At least 9 hours of the supporting course work must be at the advanced level. Students may substitute an official minor offered by another department as long as the supporting course work hours and level requirements are met.

**Departmental Distinction.** To be eligible for distinction, a student must maintain a 4.6 average in 40 hours of anthropology courses, including at least 2 hours of ANTH 291 and at least 2 hours of ANTH 293, and submit a thesis for judgment by the departmental honors board.

### ART HISTORY

**Art History Courses.** 32 hours (including ARTHI 111 and 112).

**Supporting Course Work.** 15 hours (chosen in consultation with an adviser).

Like the other humanities, the history of art as an undergraduate major offers an enrichment of and a preparation for life, rather than training for a specific occupation. The student who goes on to graduate work in the field can look forward to becoming a teacher of the subject, to membership on the staff of a museum, or to employment in a commercial art gallery.

Working in consultation with the undergraduate adviser for art history, each student will design a program of study that satisfies the requirements listed below. Students who wish to take a considerable number of studio courses as part of their major should enroll in the history of art option offered by the School of Art and Design within the College of Fine and Applied Arts.

### REQUIREMENTS

1. **Courses in the History of Art and Architecture.** ARTHI 111 and 112 and at least 24 hours of art history in 200- and 300-level courses, including one 3-hour course in each of the following areas: (a) ancient and medieval art; (b) Renaissance, Baroque, and Rococo art; (c) late eighteenth-, nineteenth-, and twentieth-century art; and (d) African, Asian, Oceanic, and pre-Columbian art. Courses in the history of architecture, excluding ARCH 210, may be used with the approval of the adviser for as many as 12 hours of credit in meeting the 24-hour requirement.
2. **Foreign Language.** French or German is strongly recommended for fulfilling the foreign language requirement; however, another language may be used with the approval of the adviser as the needs of the student's program dictate. A student who has decided to make the history of Oriental art his or her major study area in undergraduate and graduate work would be well advised to satisfy the foreign language requirement with Chinese or Japanese rather than with a European language.
3. **Supporting Course Work.** At least 15 hours of courses at the 200 and 300 levels in supporting areas chosen with the approval of the adviser must be completed. Although the program in art history allows considerable latitude in the selection of such courses, they should be chosen with the goal of enhancing the student's understanding of the cultural context within which works of art and architecture have been created. Recent practice suggests that supporting courses will most commonly be drawn from such fields as anthropology, classics, history, literature, music and dance history, philosophy, psychology, and religious studies.

**Departmental Distinction.** To be eligible for distinction, a student must earn a high grade-point average and complete at least 4 semester hours of independent research. See the undergraduate adviser for details.

### ASIAN STUDIES

See East Asian Languages and Cultures on page 130.

## ASTRONOMY

**Astronomy Courses.** 18 hours (300-level astronomy and physics courses).

**Supporting Course Work/Prerequisites.** 3 or 6 hours of introductory astronomy, 12 hours of general physics, and 11 (or 10) hours of calculus.

The major in astronomy demands both a broad and an in-depth exploration into astronomy and allied disciplines, rather than focusing on one relatively limited area of the subject. Specific programs of study for individual students must be designed and periodically updated through mutual discussions between the students and their academic advisers. Students should note sequential prerequisites for courses.

### REQUIREMENTS

The basic major consists of a minimum of 44 hours distributed as follows:

1. ASTR 121 and 122 (replacing 101 and 102), or 210;
2. MATH 120, 130, 242; or 121, 131, 242; or 135, 245;
3. PHYSCS 106, 107, and 108;
4. A minimum of 18 hours in 300-level astronomy and physics courses (excluding PHYSCS 319), of which at least 10 hours must be in astronomy courses.

Additional courses recommended for students majoring in astronomy, especially those intending to pursue graduate study in astronomy, include MATH 225, 280 and 285, and PHYSCS 331, 332, 333, 361, 365, 386, and 387.

**Departmental Distinction.** A student majoring in astronomy may earn distinction by attaining a minimum grade-point average of 4.5 in 300-level astronomy, mathematics, and physics courses.

## CHEMISTRY

**Chemistry Courses.** 30 hours (including general chemistry).

**Supporting Course Work and/or Prerequisites.** 11 (or 10) hours of calculus, and 10 or 12 hours of general physics.

Students may pursue chemistry by following either (1) the professional curriculum in chemistry (leading to the bachelor of science in chemistry) or (2) the chemistry major in the sciences and letters curriculum (leading to the bachelor of science in liberal arts and sciences). The chemistry major in the sciences and letters curriculum (requirements described below) is used by some students planning chemistry careers, but it is more often chosen by students wishing to obtain chemistry backgrounds for use in related fields.

In contrast, the professional curriculum in chemistry is a rigorous, specialized program suitable for those planning careers in chemistry. It meets standards prescribed by the American Chemical Society. The requirements are detailed on page 152.

### REQUIREMENTS

Students must complete at least 30 hours in chemistry and biochemistry, excluding CHEM 100, 103, 115, 122, and 199. The 30 hours must include CHEM 340 or 342 and two other 300-level courses, at least one of which must be outside physical chemistry. Transfer credit in chemistry must be approved by an adviser in chemistry in order to be included in the 30 hours. Students must complete mathematics through MATH 242 or 245 and physics through PHYSCS 102 or 108.

**Departmental Distinction.** Students qualify for graduation with distinction by exhibiting superior performance in both course work and in senior thesis research. To be eligible, a student must have a minimum cumulative grade-point average of 4.0 and must complete a senior thesis course.

**Cooperative Education Program.** Students accepted into the School of Chemical Sciences Cooperative Education Program spend alternate periods of attendance at the University with periods of employment in industry or government. Transcript recognition is given as well as a certificate of participation at graduation. Additional information and applications are available in the School of Chemical Sciences placement and advising office, 107 Noyes Laboratory, 505 South Mathews Avenue, Urbana, IL 61801.

## CLASSICS

**Classics Courses.** 30 to 36 hours (depending on option chosen).

**Supporting Course Work.** 12 hours (chosen with approval of an adviser).

The study of the languages and cultures of ancient Greece and Rome is valuable for those seeking a broad education in the liberal arts or preparing for graduate study in one of the many fields of Classical, Medieval, or Renaissance scholarship. It is also excellent preparation for the advanced study of law and medicine; it is increasingly admired in the business world. Within the general requirements of the major, the Department of the Classics offers individual programs designed to meet the needs and interests of each student. Close interaction between faculty and students, individual attention, tutorial instruction, opportunity for study abroad in Greece and Italy, and the unmatched resources of the Classics Library and the collections of ancient art and other objects from classical antiquity in the museums on campus provide unique advantages for the pursuit of classical studies.

### REQUIREMENTS

Students in classics may choose one of the following options. Each option requires an additional twelve hours of supporting course work which may be drawn from a wide range of fields and disciplines. Majors must plan their programs in consultation with a departmental adviser.

### OPTIONS

#### *Classical Archaeology Option*

Thirty hours of classical civilization courses, of which at least 20 hours must be in classical archaeology (CLCIV 131, 132, 217, 218, 231, 232, 318, 343, 344, 391), and at least 12 hours in advanced courses.

#### *Classical Civilization Option*

Thirty hours of classical civilization courses at the level of 114 and above, at least 12 hours of which must be in advanced courses.

#### *Classics Option*

Thirty-six hours of Greek and Latin, of which only 4 hours at the 100-level may be counted, including LAT 311, GRK 311, and at least 6 additional hours in advanced courses in each language.

#### *Greek Option*

Twenty-four hours of Greek (excluding GRK 101), including GRK 311 and at least 9 additional hours in advanced courses; 6 hours from CLCIV 114, 217, 232, 250, 343, 390, 391 (CLCIV 390 and 391 apply only when offered on Greek topics).

#### *Latin Option*

Twenty-four hours of Latin (excluding LAT 101, 102, 105), including LAT 311 and at least 9 additional hours in advanced courses; 6 hours from CLCIV 116, 218, 318, 344, 390, 391 (CLCIV 390 and 391 apply only when offered on Latin/Roman topics).

**Supporting Course Work.** Twelve hours, selected with the approval of the adviser, from the following courses or from other appropriate courses: ARCH 210, 310, 311, 318; ARTHI 111, 215, 216, 321, 322, 323, 366; HIST 181, 182, 347, 381, 382, 383, 384; PHIL 203, 310; MUSIC 310; POLS 260, 393; RELST 106, 201, 202, 342, 343; SPCOM 315; CLCIV (not approved for options in classical archaeology and classical civilization); Greek (not approved for options in Greek and classics); Latin (not approved for options in Latin and classics); COP 301, 302; other foreign languages. For Classical Archaeology, also: ANTH 102, 105, 107, 220, 250, 338, 351, 354, 355, 356, 358, 377, 378, 391; ART&D 140; ARTPH 115, 215, 216, 220; C E 201; L A 150, 180.

**NOTE:** Majors choosing the classical civilization and classical archaeology options are advised, but not required, to satisfy the college foreign language requirement with one of the classical languages.

**Departmental Distinction.** Students seeking departmental distinction must have at least a 4.5 average in relevant courses and should consult a member of the department's honors committee at the earliest opportunity.



## COMPARATIVE LITERATURE

Comparative Literature Courses. 15 hours.

Literature Courses. 24 hours.

**Supporting Course Work.** 9 hours (chosen in consultation with an adviser).

A student who elects comparative literature as a major must complete 48 semester hours in the courses indicated below, including at least 12 hours in courses numbered 300 or above. Besides knowing English, the student must have sufficient linguistic skill in at least one foreign language to participate in 200- and 300-level literature courses offered by the various foreign language and literature departments.

As soon as a student contemplates choosing comparative literature as a major, he or she should consult the faculty adviser, who will assist the student in selecting appropriate courses that will be especially helpful as preparation for the advanced comparative literature training beginning with the junior year. Courses in classical civilization and in literature (particularly courses dealing with works from several countries) are especially recommended at relatively early stages of study. An ample selection of such courses at the 100- and 200-levels exists in the various literature departments.

### REQUIREMENTS

The distribution of course work allows for considerable flexibility. It must include:

1. At least 15 hours in comparative literature courses, including CLIT 201 and 202. The remaining hours should be selected from different types of courses (e.g., C LIT 141, 142, 189, 190, 341, 351, 361, 371).
2. At least 15 hours in one literature in the original language (ancient or modern, including Far Eastern and African), 12 of which are at the 200 level or above, studied in depth and in its historical development. (Normally this is the primary literature of the student's educational background.)
3. At least 9 hours at the 200 level or above in a second literature in the original language. With the assistance of the adviser, these courses should be carefully chosen so as to correlate meaningfully with the student's primary literature. A student may center his or her interest on a cultural period such as medieval, Renaissance, neo-classical and enlightenment, or modern (nineteenth and twentieth centuries), or on genres, relations, or critical theory.<sup>1</sup>
4. At least 12 hours of credit in literature courses used to satisfy the three requirements above must be at the 300 level or approved for advanced hours in the College of Liberal Arts and Sciences.
5. At least 9 hours in any single national literature or several, including comparative literature; or in other humanistic fields, such as history, philosophy, speech, art, music, psychology, sociology, theatre, anthropology, and Asian studies. Because some of the courses in these subjects are more suitable than others to balance a student's individual major in comparative literature, the student must follow the guidelines set by his or her adviser.
6. Western civilization: CLIT 141 and 142 (6 hours) or either HIST 110 or 111 and HIST 112 or 113 (6-8 hours). These sequences may be used to satisfy the requirements, respectively, of (1) or (5) above. Beginning students in comparative literature are strongly urged to take the C LIT 141-142 sequence.

**Departmental Distinction.** To be eligible for distinction, a student must have at least a 4.25 cumulative grade-point average and a 4.75 grade-point average in departmental courses, complete a senior thesis (C LIT 293), and receive the approval of the departmental honors committee. The departmental honors committee will determine the level of distinction to be awarded.

1. If one of the literatures studied is English, a student who continues in a graduate program in comparative literature will be required to acquire a reading knowledge of a second foreign language (i.e., one foreign language for the B.A., two foreign languages for the M.A., three foreign languages for the Ph.D.).

## COMPUTER SCIENCE

(Mathematics and Computer Science)

Computer Science Courses. 25 hours (including C S 121).

Mathematics Courses. 31 to 33 hours (including calculus).

This major is jointly sponsored by the Departments of Mathematics and Computer Science. It is designed to prepare students for professional or graduate work in mathematics and computer science.

### HOURS

(35-36)  
10-11  
3  
3  
3  
3  
3  
(24-25)

### REQUIREMENTS

1. Mathematics and computer science core requirements:  
MATH 120, 130, 242; or 135, 245; or equivalent—calculus  
MATH 247—intermediate analysis  
C S 125, 223, and 225—software core courses  
C S/MATH 257—numerical analysis  
C S 173 and 273—Theory of Computation  
C S 231—Computer Architecture, I  
C S 232—Computer Architecture, II  
2. 300-level mathematics and computer science requirements:  
Students must elect at least eight 300-level mathematics and computer science courses, including one from each of the following groups:  
Group I: MATH 361/STAT 351, STAT 310/MATH 363—probability-statistics  
Group II: MATH 312, 317—algebra and discrete mathematics  
Group III: MATH 315, 318—matrices and linear algebra  
Group IV: MATH 341, 346, 384—applied analysis  
Group V: MATH 344, 347—real variables  
Group VI: MATH 314, MATH/C S 373, MATH/C S 375, C S 376—foundations of computer science  
Group VII: C S 323, 325—software  
Group VIII: C S/MATH 355, 358, 359—numerical analysis

**NOTE:** A student taking a cross-listed course in this major may designate it as either mathematics or computer science.

**Departmental Distinction.** Students interested in attaining departmental distinction in mathematics and computer science should consult with the honors adviser for program requirements early in the junior year.

## EAST ASIAN LANGUAGES AND CULTURES

Requirements: 50-54 hours

Literature Courses. 26-30 hours of a single Asian language

Disciplinary and Period Courses. 12 hours

Advanced Courses. 12 hours

The goal of this major is that the student gain an introductory knowledge of the civilizations of East Asia, competence in an East Asian language, familiarity with East Asian cultures through the disciplines of history and literature, and a more advanced knowledge of the region including research and writing in a seminar format. The major is useful for the student seeking a broad liberal arts education and preparation for graduate or professional study involving East Asia.

### REQUIREMENTS

The major in East Asian Languages and Cultures consists of 50-54 hours, including 24 in nonlanguage courses, as follows:

1. **Language** (6 courses, 26-30 hours).  
Majors must successfully complete Chinese (30 hours), Japanese (30 hours), or Korean (26 hours) through the end of the year.
2. **Disciplinary and Period Courses** (4 courses, 12 hours).  
Majors must successfully complete nonlanguage courses as follows:  
a. EALC/HIST 170, for an introduction to East Asian civilizations;  
b. one course on East Asian dealing substantially with the period before 1800;  
c. one course in East Asian history; and  
d. one course in East Asian literature.  
At least two of the four disciplinary and period courses must be at the 200 level or above.
3. **Advanced Courses** (4 courses, 12 hours).  
Majors must also successfully complete EALC 298 and three additional nonlanguage courses on East Asia at the advanced (300) level.

No course may be counted more than once toward the requirements of 2 (disciplinary and period courses) and 3 (advanced courses) in the major.

## ECONOMICS

Economics and Statistics Courses. 27 to 30 hours.

**Supporting Course Work.** 5 to 8 hours of mathematics, and 18 hours in courses related to major interest in economics.

Economics is a social science that studies the problems caused by scarcity and how individuals, institutions, and societies may deal with these problems. Economics shares common interests with business-oriented disciplines, such as finance and business administration.

Economists frequently require quantitative skills, such as calculus and statistics, to derive economic principles that are useful in forming policies designed to solve economic problems.

#### REQUIREMENTS

The major in economics requires course work in three areas. For further information, see the *Economics Bulletin* available in the office of undergraduate studies of the department. The requirements are:

1. **Economics and Statistics.** Introductory economics (ECON 102 and 103) and at least 18 hours of additional economics, including ECON 300 and 301 (but excluding ECON 199, 295, and 299); and 6 hours of statistics (ECON 172 and 173 or equivalent).
2. **Mathematics.** The minimum requirement is MATH 125 and 134; or MATH 120 and 130; or MATH 121 and 131; or equivalent (see *Economics Bulletin*). Additional mathematics courses are recommended.
3. **Supporting Course Work.** At least 18 hours in courses outside economics but related to the student's major interest in economics (see *Economics Bulletin* for details and examples).

**Departmental Distinction.** A student must have a grade-point average of at least 4.25 overall and at least 4.50 in economics; complete a research project (e.g., complete ECON 294-295 or 299); and be recommended by the faculty research adviser.

#### ENGLISH

(Majors in English and Rhetoric)

#### ENGLISH

**English Courses.** 30 hours.

**Supporting Course Work.** 6 to 8 hours of Western/British civilization, plus an official minor or 20 additional hours chosen in consultation with an adviser, for a total of 24-29 hours.

The Department of English is organized to provide instruction in literatures in English, literary theory and criticism, the English language, expository and creative writing, writing studies, English education, film, cultural studies, and closely related fields. Students who major in English have many options in planning a field of study, but the basic program is designed to accommodate students who seek to broaden their familiarity with our literature, to intensify their language skills for personal and professional reasons, and to learn more about literature's relationship to the other arts, history, philosophy, psychology, and the modern languages.

#### REQUIREMENTS

Students must complete the following:

1. **English Courses.** 30 hours, distributed as follows: ENGL 101—Introduction to Poetry (It is strongly recommended that this course and the following three surveys be taken prior to advanced courses in the major.) Three survey courses (ENGL 209—English Literature from the Beginning to 1798; ENGL 210—English Literature from 1798 to Present; and ENGL 255—Survey of American Literature, I); a 300-level Shakespeare course; ENGL 300—Writing about Literature (which satisfies the University Composition II requirement for English majors); and at least one course from each of the following five groups:  
Group I (British literature to 1800): ENGL 202, 204, 206, 315, 316, 321, 326, 327, 328, 329  
Group II (British literature after 1800): ENGL 207, 208, 240, 247, 331, 334, 335, 341, 342  
Group III (American literature): ENGL 249, 256, 259, 260, 347, 350, 351  
Group IV (major author other than Shakespeare): ENGL 311, 323, 343, 355  
Group V (theme, mode, genre, and interdisciplinary approaches): ENGL 213, 215, 241, 242, 243, 244, 248, 249, 273, 274, 275, 280, 281, 284, 303, 361, 362, 365, 366, 367, 368, 373, 375, 383, 387  
Each section of ENGL 300 will be designated to fulfill either the Shakespeare or one group requirement; no single course can be used to fulfill the requirement of more than one group, and at least 12 hours must be at the 300 level.
2. **Supporting Course Work.** 24-29 hours. These hours will consist of HIST 110 or 111 and HIST 112 or 113 (6-8 hours), HIST 231-232 (replacing 131, 132; 8 hours); or C LIT 141-142 (6 hours) plus one of the following options, with the approval of the English adviser:  
a. An official minor in another department or unit (typically 18-21

hours) or 20 additional hours in another department chosen in consultation with an adviser.

- b. Twenty hours comprising courses from two or more fields and combined into an intellectually or professionally coherent study. At least 6 hours of advanced (300-level or designated 200-level) courses are required. Up to 6 hours in English or cross listed in English and not counted toward major requirements may be approved for a topically organized study. Possibilities for topical studies include prelaw, premedicine, precommerce, business communications, marketing, publishing, medieval studies, and other cross-disciplinary topics.
3. **Special Recommendations.**  
— Students interested in the departmental honors program should consult the English Advising Office.  
— Students interested in the English teacher-training program must consult with the teacher-training adviser, preferably by the middle of the sophomore year. Requirements for the English teacher-training program differ from requirements for the regular major and from the general education requirements.  
— Students planning to enter graduate school should elect as many 300-level courses as possible, including a course in either Chaucer or Milton; a course in the history or structure of the English language; and a course in critical theory. Further, these students should consult the specific requirements of the graduate schools they plan to enter.

**Departmental Distinction.** A student interested in graduating with distinction or high distinction must enter the honors program with at least a 4.25 grade-point average, complete three honors seminars, and write a senior honors essay. To be considered for highest distinction, a student must take an additional 3 hours and complete a senior honors thesis. The level of distinction is assigned by the honors committee on the basis of grade-point average, work in English courses and in honors seminars, and the readers' evaluations of the honors essay or honors thesis. Interested students should consult the departmental honors adviser for details.

#### RHETORIC

**Rhetoric Courses.** 15 hours.

**English Courses.** 15 hours of English and American literature.

**Supporting Course Work.** 6 to 8 hours of Western/British civilization, plus an official minor or 20 additional hours chosen in consultation with an adviser, for a total of 24-29 hours.

The advanced rhetoric program permits a student to work in one or more of three disciplines: poetry, fiction, and/or exposition. Except for the tutorial RHET 355, all courses are taught as workshops by a veteran faculty consisting largely of producing writers. The program provides excellent preparation for graduate work in writing.

#### REQUIREMENTS

Students must complete the following:

1. At least one course in expository writing, either RHET 143 or 227.
2. Twelve additional hours of rhetoric selected from RHET 144, 146, 204, 227, 304, 306, and 355. With the written permission of a rhetoric adviser, 3 of these 12 hours may be selected from the following courses: ENGL 301, 302, 303, 381; B & T W 250, 253, 261, 263, 271; SPCOM 210, 315, 317, 322, 323, 332; JOURN 326; and PHIL 102.
3. One course in Shakespeare (ENGL 318 or 319).
4. Twelve additional hours of English and American literature courses selected from 200- and 300-level courses.
5. **Supporting Course Work.** 24-29 hours. These hours will consist of HIST 110 or 111 and HIST 112 or 113 (6-8 hours), HIST 231-232 (replacing 131, 132; 8 hours), or C LIT 141-142 (6 hours), plus one of the following options, with the approval of a rhetoric adviser:  
a. An official minor in another department or unit (typically 18-21 hours) or 20 additional hours in another department chosen in consultation with an adviser.  
b. Twenty hours comprising courses from two or more fields and combined into an intellectually or professionally coherent study. At least 6 hours of advanced (300-level or designated 200-level courses) are required. Up to 6 hours in English or cross listed in English and not counted toward major requirements may be approved for a topically organized study. Possibilities for topical studies include prelaw, premedicine, precommerce, business communications, marketing, publishing, medieval studies, and other cross-disciplinary topics.

**Departmental Distinction.** A student must enter the honors program with a 4.25 grade-point average and complete two English honors seminars and a significant writing project in RHET 355. The level of distinction is assigned by the writing committee based on work in rhetoric courses and honors seminars and on the readers' evaluations of the writing project. Interested students should consult the departmental adviser for details.

## FINANCE<sup>1</sup>

Finance Courses. 24 hours.

**Supporting Course Work.** 28 hours (as specified below).

The field of finance is concerned with the acquisition of funds and the determination of the use of funds by a business or an individual. In this process, an important aspect is the valuation of assets, both financial and real. Specific areas of finance include the acquisition and use of funds by businesses (business finance), the valuation of financial assets (investments), the financial environment and participants (banking and financial institutions), the valuation and financing of real properties (real estate), and an assessment of risks and programs to insure against risk (insurance and risk management).

### REQUIREMENTS

Students must complete the following:

- At least 24 hours of finance courses including:
  - FIN 254<sup>2</sup>
  - Seven additional finance courses. Current recommendations of courses in each program area within finance are available in the department office.
- At least 28 hours of supporting courses including:
  - ACCY 201 and 202
  - MATH 134 (or equivalent)
  - C S 105
  - ECON 102-103<sup>3</sup>, 172, 173
  - At least 3 hours from the following courses. Current recommendations of courses in each program area within finance are available in the department office.
    - ACCY 211, 221, 251, 311
    - ADM 200, 202, 210, 261, 274, 321
    - C E 216
    - Economics (any course numbered above ECON 103, excluding ECON 172 and 173)
    - GEOG 366, 383
    - IE 335, 357, 385
    - Mathematics (any course numbered above MATH 120, excluding MATH 134)

Additional courses may be substituted upon the approval of a finance adviser.

- The department has pending proposed program revisions which include an additional departmental course requirement. Students should consult a departmental adviser.
- FIN 254 has as a prerequisite ACCY 200 or 202 and as a concurrent prerequisite ECON 172. Therefore, the supporting course work in accounting (ACCY 201 and 202) and mathematics (MATH 134) should be taken in the sophomore year.
- ECON 102 and 103 should be taken in the freshman year.

### NOTES:

- Students are required to fill out a Major Plan of Study (Field of Concentration) form after the completion of 60 hours of credit or upon transfer into the department. See your Department of Finance adviser.
- Students must maintain a 3.0 GPA in their major (field of concentration) to graduate. This includes both the finance and the supporting courses taken to fulfill graduation requirements. None of these courses may be taken on a credit-no credit basis.

**Sample Programs.** The specific finance and supporting courses to be selected depend upon the student's interest in a particular area of finance. Programs are available in the following areas: general finance, business finance, insurance, investments, financial institutions and money markets, real estate, and risk management. It is not necessary to choose one specific program area. Finance majors seeking advice about the specific finance and supporting courses to take should consult with their advisers.

**Departmental Distinction.** Departmental distinction will be awarded on the basis of the grade-point average. See the department for details.

## FRENCH

French Courses. 44 to 47 hours (beyond the 100 level).

**Supporting Course Work.** 6 to 8 hours of Western civilization and 12 to 15 hours chosen in consultation with an adviser.

### REQUIREMENTS

FR 205, 207, 209, and 210, or their equivalent; plus 32 to 35 hours in French beyond these courses. These 32 to 35 hours may not include 100-level courses, or FR 270 or 280, and must include courses as outlined below; FR 199 may be included if approved by an adviser. Twelve to 15 hours in courses are to be chosen from other departments or programs.

### OPTIONS

#### French Studies Option

- Four courses in French language and linguistics, including FR 314.
- Four courses in French literature: two courses in French literature prior to 1800, and two courses in French literature from 1800 to the present. FR 343—Studies in French, when dealing with a literary topic, may be substituted for one of these courses.
- Three additional courses in French civilization, French film, French language and linguistics, French literature, or francophone studies.
- Twelve to 15 hours in other departments chosen with the approval of the option adviser.
- Western Civilization:** HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142, or substitutions approved by the option adviser.

#### French Commercial Studies Option

- Five courses in French language and linguistics, including FR 314, 319, and 320.
- Four courses in French civilization, French literature, or francophone studies.
- FR 385 and 386.
- Approved supporting course work of at least 15 hours in business administration, finance, and/or economics selected in consultation with the option adviser.
- Western Civilization:** HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142, or substitutions approved by the option adviser.

**NOTE:** Consult an adviser in this option concerning mathematics and economics courses appropriate for the fulfillment of LAS general education requirements.

**Year Abroad Program.** See page 124.

**Departmental Distinction.** A student must have at least a 4.5 cumulative grade-point average, complete a senior thesis (FR 292), and complete two additional advanced-level courses in French or in supporting course work. Consult the honors adviser for details.

## GEOGRAPHY

**Requirements.** At least 40 hours.

**Geography Courses.** 27 to 33 hours.

**Supporting Course Work.** 12 to 28 hours.

Students in geography must complete both the core courses in geography and one of the seven options, for a total of at least 40 hours in the major.

A student who elects one of the options in general human and physical geography, urban and social geography, historical and regional studies, or economic geography is encouraged to include MATH 124 (Finite Mathematics) and MATH 134 (Calculus for Social Scientists) as part of the undergraduate program. The options in physical environment, natural resource evaluation, and spatial graphics and analysis have specific mathematics requirements as listed below.

### REQUIREMENTS

#### Core in Geography (15 to 16 hours)

- Students must elect three introductory geography courses chosen from physical geography (GEOG 102, 103) and human geography (GEOG 101, 104, 205).
- GEOG 271—Spatial Analysis is required.
- Students are strongly encouraged to elect GEOG 373—Map Compilation and Construction.
- All students are encouraged to elect techniques courses as part of their programs. The techniques courses include GEOG 185, 273, 277, 290 (spatial programming), 370, 373, 375, 377, and 378.



**OPTIONS****General Human and Physical Geography Option**

1. **Geography Courses.** At least 6 hours of physical geography and 6 hours of human geography to be selected from 200- and 300-level courses, excluding GEOG 210.
2. **Supporting Courses.** 12 hours, chosen in consultation with the adviser, from the following: agronomy, agricultural economics, anthropology, atmospheric sciences, civil engineering, forestry, geology, history, landscape architecture, life sciences, political science, psychology, sociology, urban and regional planning.
3. At least 40 hours total in the major, including the core courses.

**Urban and Social Geography Option**

1. **Geography Courses.** 12 hours chosen from GEOG 110, 204, 205, 284, 290, 294, 310, 325, 326, 365, 366, 383, 384.
2. **Supporting Courses.** 12 hours, chosen in consultation with the adviser, from the following: agricultural economics, anthropology, communications, economics, history, landscape architecture, political science, psychology, sociology, urban and regional planning.
3. At least 40 hours in the major, including the core courses.

**The Physical Environment (the Earth's Land and Biota) Option**

1. **Geography Courses.** 12 hours chosen from 200- and 300-level physical geography courses (GEOG 203, 303, 304, 305, 306, 307, 308, 315, 341). Students may choose geomorphologic, biogeographic, and climatic processes.
2. **Supporting Courses.**
  - a. MATH 120. Students in geomorphology must elect PHYSICS 101; students in soils geomorphology must elect CHEM 101 and 102.
  - b. Nine to 12 hours, chosen in consultation with the adviser, of courses in agronomy, anthropology, atmospheric sciences, civil engineering, forestry, geology, landscape architecture, and life sciences.
3. At least 46 hours total in the major, including the core courses.

**Historical and Regional Studies Option**

1. **Geography Courses.** 12 hours chosen from GEOG 110, 204, 224, 284, 290, 310, 325, 326, 327, 353, 355, 382, 383. Students may choose historical geography, historic preservation, or the geography of a continental region.
2. Students specializing in the study of a foreign area should select an appropriate language in fulfilling the foreign language requirement.
3. **Supporting Courses.** 12 to 15 hours, chosen in consultation with the adviser, of courses in African, Latin American, Russian and East European, or West European area studies; American civilization; or from architecture, history, landscape architecture, and urban and regional planning.
4. At least 40 hours in the major, including the core courses.

**Natural Resources Evaluation Option**

1. **Geography Courses.** 9 hours chosen from GEOG 203, 214, 303, 304, 305, 306, 308, 341, 367; and 6 to 8 hours from the geographic technique courses (GEOG 277, 290 [spatial programming], 370, 373, 375, 377, 378).
2. **Supporting Courses.**
  - a. CHEM 101 and 102; MATH 124, 134. Also ECON 101 should be included.
  - b. Six to 9 hours, chosen in consultation with the adviser, of courses in agronomy, civil engineering, forestry, geology, life sciences.
3. At least 44 hours in the major, including the core courses.

**Economic Geography Option**

1. **Geography Courses.** 15 to 17 hours, including GEOG 205, of which 9 hours normally will be chosen from GEOG 204, 290, 341, 365, 366, 367, 383, and 384; and 6 to 8 hours from the geographic technique courses (GEOG 185, 277, 290 [spatial programming], 370, 371, 375, 377, 378).
2. **Supporting Courses.**
  - a. ECON 101
  - b. Twelve to 15 hours, chosen in consultation with the adviser, of courses in agricultural economics, civil engineering, economics finance, political science sociology, and urban and regional planning. ECON 360 is highly recommended.
3. At least 42 hours in the major, including the core courses.

**Spatial Graphics and Analysis Option**

1. **Geography Courses.** 15 hours, of which 9 to 12 will normally be chosen from geographic techniques (GEOG 185, 277, 290 [spatial programming], 370, 373, 375, 377, 378), and the remaining from 200- and 300-level courses.
2. **Supporting Courses.**
  - a. MATH 112 and 114 (if the student does not have mastery of that material from high school); also MATH 124 and 134 are strongly recommended.
  - b. Twelve to 15 hours, chosen in consultation with the adviser, of courses in art and design; civil engineering; communications; computer science; general engineering; landscape architecture; mathematics; and urban and regional planning.
3. At least 47 hours total in the major, including the core courses.

**Departmental Distinction.** All students majoring in geography who have maintained a University grade-point average of 4.25 and who satisfactorily complete an independent project (GEOG 291) in their senior year will be eligible to graduate with distinction in geography. Students should consult their advisers about distinction requirements as soon as they enter the major—no later than the end of their junior year.

**GEOLOGY**

**Geology Courses.** 35-36 hours.  
**Supporting Course Work.** 21 hours.

The major in geology is designed for students who want a more flexible course of study than is provided by the curriculum in geology and geophysics (see page 152). It may be used by those wishing to obtain a more liberal education and/or background in geology for use in fields such as anthropology, business, mineral economics, regional planning, journalism, law, sales, or library and information science. It is not intended to prepare a student for graduate work in the geological sciences unless the student selects additional courses in mathematics, chemistry, and physics comparable to those required in the geology and geophysics curriculum.

**REQUIREMENTS**

1. **Geology.** 35-36 hours including: GEOL 107, 108<sup>1</sup> (8 hours), 311(4), 317<sup>2</sup> (6), 320 (3) or 340 (4), 332 (4), 336 (4), and an additional 6 hours of 300-level geology.
2. **Supporting Course Work.** 21 hours including: MATH 120 or 135 (5), CHEM 101 and 102 (8) or 107, 108, 109, and 110 (10), PHYSICS 106 (4) or 101 (5), and an additional 4 hours in computer science, physics, mathematics or life science (beyond the minimum LAS Area II biological science requirement).

**Departmental Distinction.** Students who maintain grade-point averages of at least 4.5 in all geology courses and 4.0 in all other science and mathematics courses and who complete an acceptable senior thesis, including at least four hours of credit in GEOL 292 or 293, are recommended for graduation with distinction.

1. Students who decide to follow the geology major after first taking GEOL 101 or 111 or 100 and 110 should enroll in GEOL 108; students who decide to follow the major after first taking GEOL 100 (without 110), 104, 105, or 143 should enroll in GEOL 107. The combination of GEOL 101 or 111 or 100/110 and 102 will be accepted as a substitute for GEOL 107 and 108, but students should be aware these courses are not intended for science majors.
2. GEOL 317 is a summer field course taught off campus.

**GERMANIC LANGUAGES AND LITERATURES**

**German Courses.** 29 hours beyond the 100 level; 12 hours beyond the 100 level for Scandinavian.

**Supporting Course Work.** 20 to 26 hours (chosen in consultation with an adviser); 33 hours for Scandinavian. These hours include 6 to 8 hours of Western civilization.

A major in German serves to develop fluency in one of the leading languages of science, industry, and intellectual culture; familiarity with principles governing the structure of our Indo-European family of languages and of languages generally; insight into the use of language in literary expression and portrayal; and knowledge of the culture that finds expression through this language and its literature. The departmental option in Scandinavian provides substantially the same advantages. The following options are offered within this major.

**OPTIONS****German and Commercial Studies Option**

Designed to provide students with an understanding of the language and customs of the business world in German-speaking countries, together with study of international affairs and commerce, especially trade with Europe.

1. Twenty-nine hours in German, including 211, 212, 220, 221, 231, 301, 302, 303, 320, and 365.
2. Twenty hours of supporting course work:
  - a. Western civilization. All students will complete either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours)
  - b. Twelve to 14 additional hours outside of German language and literature selected in consultation with the major adviser. These supporting courses are usually selected from business administration, finance, and/or economics, and occasionally also from political science and geography.

**German Literature in the European Context Option**

Designed to expand the student's view of literature by providing a broad knowledge of German, drawing on courses offered by other literature departments, and exploring the relationship of literature to the arts, history, politics, and culture.

1. Twenty-nine hours in German, including GER 211, 212, 231, 232, 301, 302, 311, 312, 320, and 365.
2. Twenty hours of supporting course work:
  - a. Western civilization. All students will complete either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours)
  - b. Twelve to 14 additional hours outside of German language and literature selected in consultation with an adviser. The study of other literatures in their original languages is recommended.

**Language and Literature Option**

Designed as a traditional study of German, providing students with a balanced knowledge of German language, literature, and civilization.

1. Twenty-nine hours in German, including GER 211, 212, 231, 232, 301, 302, 311, 312, 320, and 365.
2. Twenty hours of supporting course work:
  - a. Western civilization. All students will complete either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours).
  - b. Twelve to 14 additional hours of course work outside of German language and literature selected in consultation with an adviser.

**Language Studies Option**

Designed to acquaint students with the structure and development of Germanic languages.

1. Twenty-nine hours in German, including GER 211, 212, 231, 232, 301, 302, 311, 312, 320, and 365.
2. Twenty-four to 26 hours of supporting course work:
  - a. Western civilization. All students will complete either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours).
  - b. At least 18 additional hours, including GMC 367, SCAN 101 and 102, LING 300 and one additional linguistics course, and ENGL 303.

**Modern German Studies Option**

Designed to provide students with an understanding of present-day civilization and culture in German-speaking countries of Central Europe.

1. Twenty-nine hours in German, including GER 211, 212, 231, 232, 301, 302, 320, 365, and two of the following: 330, 331, 332, 335.
2. Twenty hours of supporting course work:
  - a. Western civilization. All students will complete either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours).
  - b. Twelve to 14 additional hours outside of German language and literature. This course work may be fulfilled in the departmental study program in Vienna, Austria; in an approved program in another German-speaking country; or on campus.

**Scandinavian Studies Option**

Designed for students who will be able to spend a year abroad studying in Scandinavia.

1. Twelve hours in Scandinavian beyond SCAN 101-104. Scandinavian courses in translation are acceptable.
2. Twenty-four hours of study abroad in Scandinavian studies through an approved LAS 299 program (in, for example, language, literature, history, art, political science, or linguistics). Nine additional hours of supporting course work outside of Scandinavian studies must be selected in consultation with an adviser; these hours will include the Western civilization requirement that is satisfied by completing either HIST 110 or 111 and HIST 112 or 113 (6-8 hours) or C LIT 141 and 142 (6 hours).

**Year Abroad Program.** See page 124.

**Departmental Distinction.** Students majoring in the Department of Germanic Languages and Literatures are urged to consult the departmental honors adviser by the second semester of the junior year for information pertaining to senior honors work and honors awards in the department.

**HISTORY**

**History Courses:** 33 to 37 hours (including 100-level survey sequence[s])

**Supporting Course Work:** 20 hours (chosen in consultation with an adviser)

Students in the history major should acquire a broad background from the study of the human experience in different cultures and time periods. A wide distribution of courses is therefore advisable; this is especially true for those who wish to enter teaching, government service, or professional schools for law, social work, museum and library science, business administration, or labor and industrial relations.

**REQUIREMENTS**

1. A prerequisite to advanced work in history is one survey sequence (HIST 110 or 111 and HIST 112 or 113, 231, 232 (replacing 131, 132), 151-152, 168-388, 170 and 222, 267, 285, or 286; 173 and 322 or 323; 175-176; 174 and 375, 377, or 378; or 181-182).
2. A second sequence may also be taken, but at least 21 of the required hours of history courses must be at the 200 and 300 level.
3. One of the courses, at any level, must be in a pre-modern period of history.
4. The history courses must include at least 12 hours in a first area of emphasis and at least 9 hours in a second area. The following areas may be selected: ancient-medieval; Renaissance-Early Modern Europe to 1789; Modern Europe from 1789 to present; the United States; Latin America; Africa, Near and Middle East; South and East Asia; Russia and Eastern Europe; History of Women and Gender; Military History; History of Science; African-American History and the History of Race Relations.
5. HIST 298 must be taken as part of the 33 to 37 hours required except for students who successfully complete two semesters of HIST 293.
6. At least 20 hours of supporting course work must be taken outside the history department, including C LIT 141-142 for those who have not had HIST 110 or 111 and HIST 112 or 113. Twelve of the 20 hours of supporting courses must be at the 200 and 300 level. Traditional areas for such work are ancient and modern languages (excluding the first-year elementary courses and also excluding the second-year courses if those courses are being used to fulfill the language requirement in the College of Liberal Arts and Sciences), anthropology, art history, classical archaeology and civilization, economics, English, American and comparative literature, geography, library science, music history, philosophy, political science, psychology, religious studies, and sociology. Nonhistory courses chosen from the multidisciplinary fields of women's studies, African studies, Asian studies, Latin American studies, Russian language and area studies, medieval civilization, Renaissance civilization, American civilization, and cinema studies are also accepted as supporting course work if they meet the criteria of relevance and academic level. History of science students and premedical and pre dental students may offer work in the physical and life sciences. All supporting course work should be related by time, area, and/or topic to the major and is subject to the approval of the history department adviser.

For details on the major in history and the honors program, see the adviser in 300 Gregory Hall.

**Departmental Distinction.** To be eligible for distinction, a student must have at least a 4.5 grade-point average, complete a senior thesis,

and receive the approval of an examining committee. The examining committee will determine the level of distinction to be awarded.

## HUMANITIES

**Requirements.** At least 45 to 51 hours.

Humanities departments in the College of Liberal Arts and Sciences, in addition to their own disciplinary majors, have developed and sponsor an interdisciplinary program of study, which encompasses several distinct programs designed to acquaint students in a coherent manner with topics that cross disciplinary boundaries. At present, the major in humanities includes program options in American civilization, cinema studies, history and philosophy of science, medieval civilization, and Renaissance studies. Although it is not possible to offer options in all specialties or topics of humanistic study, students whose interests do not coincide with one of the specific options are encouraged to consider developing their own programs through the Individual Plans of Study (IPS) major. Enrollment in the major in humanities requires election of one of the options.

Each option of the major in humanities is supervised by faculty members whose own scholarship and educational interests have involved them in interdisciplinary teaching and research. An adviser for students is available in each option and is responsible for approving students' plans of study.

### MAJOR

Enrollment in the humanities major requires the following:

1. Elect one of the options offered within the major in humanities and file an option declaration with the LAS humanities office no later than the end of the first semester of the junior year. Students who do not begin work on option requirements by the junior year will be at a disadvantage.
2. Select specific courses counted toward completion of an option with the advice and approval of the option adviser, subject to specific option requirements. Students in one of the humanities major options are strongly encouraged also to enroll in 6-8 hours of western civilization (HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142).
3. For the elected option, complete the stated minimum number of hours (which will be at least 45 hours) in courses applicable toward the major and in accord with the distribution requirements listed below (a, b, and c); at least 25 hours must be at the 200 and 300 level.

**NOTE:** Some course selections may require prerequisite courses. Total hours will most likely be in excess of the 45-hour minimum; however, most students will complete two or perhaps three college general education distribution requirements in the process.

- a. Complete at least 36 hours of topically oriented course work with at least 6 hours in each of three different departments or programs. Courses must be selected in consultation with an adviser.
- b. Complete a junior seminar and tutorial of at least 3 hours in the elected option. (Advisers may approve an appropriate advanced-level course in lieu of a junior seminar or tutorial.)
- c. Complete a senior seminar and tutorial or senior thesis of at least 3 hours as specified in the elected option.

### OPTIONS

#### American Civilization Option

This option offers a comprehensive introduction to the study of American civilization primarily through the study of art, history, literature, philosophy, and the social sciences.

#### REQUIREMENTS (48 hours)

1. Two introductory courses of at least 3 hours each chosen with the approval of the option adviser; the introductory courses should provide a broad overview of the development of American culture; for example, HUMAN 141 and 142.
2. At least 9 additional hours selected from among the following: ENGL 245, 255, 259, 260, 347, 350, 351, 362 (when the topic is within American literature).
3. At least 9 hours selected from among the following: HIST 255, 260, 261, 262, 352, 354-364, 367-374.
4. At least 6 hours selected from among the following: ARCH 315, 316; ARTHI 346, 350, 351; PHIL 313, 316, 323.
5. At least 12 additional hours selected in consultation with the option adviser from courses offered in the departments of anthro-

- pology, economics, geography, political science, and sociology.
6. Substitutions for any of the above specific courses may be permitted with the approval of the option adviser.
7. At least 3 hours in HUMAN 297—Junior Seminar and Tutorial. An advanced-level course with an American focus may be substituted with the approval of the adviser.
8. At least 3 hours in the senior tutorial and seminar (HUMAN 298).

#### Cinema Studies Option

This option offers an interdisciplinary introduction to the study of film from various literary, cultural, and social perspectives. The emphasis is on developing methods and skills of critical interpretation, but students are also encouraged to acquire basic competence in the technical aspects of film making by completing at least one course in cinematography. The option's underlying aim is to enrich the individual by exposure to the most significant patterns, philosophies, and artifacts of history and of narrative and dramatic expression.

#### REQUIREMENTS (51 hours)

1. Acquire a knowledge of at least one foreign language sufficient to the student's program in film studies. In most cases, this requirement will exceed the college foreign language requirement by 6 semester hours of study. The language and the level of proficiency will be determined in consultation with the option adviser.
2. ENGL 104—Introduction to Film
3. CINE 261 and 262—a two-semester general survey of world film
4. CINE 361—Film Theory and Criticism
5. At least one course in film making: ARTCI 180, or equivalent.
6. Substitutions for specific courses listed above will be approved by the option adviser only in exceptional cases.
7. At least 18 additional hours in film courses offered in individual departments in the humanities. At least 9 of these hours must be in courses offered in foreign language departments, and at least two languages must be represented in the total.
8. At least 12 additional hours of cinema-related courses in one or more of the following general fields: aesthetics, art or architectural history, communications, criticism, cultural anthropology, foreign language studies, linguistics, literature (fiction and/or drama), modern history, music, philosophy, photography, theatre. Specific courses and sequences in these fields are to be approved at the discretion of the option adviser, except that courses eligible to satisfy requirement 7 may not be approved under requirement 8.
9. Three hours in HUMAN 297—Junior Seminar and Tutorial. This course will involve an independent research project in a field of cinema defined by the student and the submission of a substantial piece of writing growing out of this research. An advanced-level course with a cinema studies focus may be substituted with approval of the adviser.
10. Three hours in HUMAN 298—Senior Seminar and Tutorial. This course will involve the completion of a significant paper somewhat comparable to a senior honors thesis.

#### History and Philosophy of Science Option

This option is designed to allow students to combine the study of science (including mathematics and the social sciences), the history of science, and the philosophy of science in an integrated program. Within the framework of specific requirements, an individual program of study will be designed to fit the student's particular interests.

#### REQUIREMENTS (45 hours)

1. At least 15 hours from among the following with at least 6 hours in Group I and 6 hours in Group II:  
Group I: PHIL 270, 317, 318, 319, 371; SOC 366  
Group II: HIST 245, 247, 248, 249, 250, 338; CHEM 390; PHIL 214; PSYCH 360; SOC 218. Substitutions for the above specific courses may be permitted with the approval of the option adviser.
2. At least 24 hours of course work in a single discipline selected from the following: biology; ecology, ethology, and evolution; entomology; microbiology; physiology; plant biology; astronomy; biochemistry; chemistry; chemical engineering; geology; mathematics; physics; sociology; economics; political science; anthropology. In consultation with the option adviser, a student may design an interdepartmental program of science courses; in this case, at least 6 of the 24 hours must be at the 300 level.
3. At least 3 hours in HUMAN 297—Junior Seminar and Tutorial. An advanced-level course with a history and philosophy of science focus may be substituted with the approval of the adviser.
4. At least 3 hours in HUMAN 298—Senior Seminar and Tutorial.



### Medieval Civilization Option

This option is intended to introduce students to medieval culture, provide them with a sense of periods and movements, names, ideas, and values, and thus give them a synoptic view of the field. A student whose interests are primarily literary should consult with an adviser in comparative literature or in one of the language and literature departments. The required courses are designed to encourage students to read medieval texts, insofar as practical, in the manner in which medieval university students would have read them. In addition, a certain amount of training in the reading of medieval documents, the interpretation of art, and the study of Latin and the medieval vernacular languages will bring students closer to the thought of the period.

#### REQUIREMENTS (45 hours)

1. Acquire a reading knowledge of a foreign language relevant to the student's interests in medieval civilization. In most instances, this requirement will coincide with the college foreign language requirement. The language should be selected in consultation with the option adviser.
2. Complete two introductory courses of at least 3 hours each selected in consultation with the option adviser.
3. Complete two advanced-level topically oriented courses of at least 3 hours each selected in consultation with the option adviser. Selected courses should focus on a topic central to medieval civilization and should emphasize the international cultural and social unity of medieval civilization; sample topics include medieval vernacular literatures, mythology, the Bible and medieval exegesis, iconography, paleography and the medieval book, cosmography, geography in the Middle Ages, and the influence of Islam. Departmental courses, such as HIST 331 or 332 and CLCIV/SPCOM 315, or special topics courses, such as HUMAN 295, may be used to complete this requirement; but courses must be selected with the adviser's approval.
4. Complete 27 hours of medieval-related course work selected in consultation with the option adviser from the departments of art history, history, literature, music, philosophy, and religious studies.
5. Complete at least 3 hours of HUMAN 297—Junior Seminar and Tutorial. An advanced-level course with a medieval focus may be substituted with the approval of the adviser. The medieval civilization topic of HUMAN 297 or the substitute course should require an ability to read primary and secondary sources in a foreign language.
6. Complete at least 3 hours of HUMAN 292—Senior Thesis. The thesis should ordinarily be in one of the following areas: art, medieval Latin literature, vernacular literature, liturgy and worship, philosophy and theology, history, science.

### Renaissance Studies Option

This option incorporates course work in the Renaissance and related periods and places an emphasis on independent study and the completion of research papers in the junior and senior years.

#### REQUIREMENTS (45 hours)

1. Complete a minimum of 15 hours of Renaissance-related course work in a single discipline at the 200 and 300 level from among the following: art, history, literature, or music.
2. Complete at least 24 hours of Renaissance-related course work in the following areas with at least one course in each: art, history, music, philosophy, and literature. At least one of these courses must be in classical literature or culture.
3. Acquire a reading knowledge of a foreign language relevant to the student's interests in Renaissance study. In most instances, this requirement will coincide with the college foreign language requirement. The language should be selected in consultation with the option adviser.
4. Complete at least 3 hours in HUMAN 297—Junior Seminar and Tutorial. An advanced-level course with a Renaissance focus may be substituted with the approval of the adviser.
5. Complete at least 3 hours in HUMAN 298—Senior Seminar and Tutorial, which will lead to the completion of a significant research paper.

**Departmental Distinction.** To be eligible for graduation with distinction, a student must have a college grade-point average of 4.5 and a humanities major option grade-point average of 4.5 and completion of Humanities 298 with a grade of A and completion of a semester

paper in 298 that is judged to be deserving of "distinction" by a committee of at least two faculty members.

**High Distinction.** To be eligible for graduation with High Distinction, a student must have a college grade-point average of 4.5, a humanities major option grade-point average of 4.7, and must have completed HUMAN 292 (instead of HUMAN 298) with a grade of A and a thesis in 292 that is judged to be deserving of "high distinction" by a committee of at least two faculty members.

### INDIVIDUAL PLANS OF STUDY (IPS)

Students in the College of Liberal Arts and Sciences may choose any of the seventy different undergraduate degree programs offered within the college. These majors and specialized curricula, each with its own pattern of requirements and electives, are continuously reviewed by the sponsoring departments and the college and revised as needed. At the same time, it is not possible to anticipate or specify all possible undergraduate fields of study. So, in order to encourage the growth of new academic disciplines, the college sponsors the experimental major—the Individual Plans of Study program. IPS allows the student to create an original major more appropriate for the individual's educational needs and characterized by a unique pattern of upper-level courses with a new academic direction.

The development of an IPS program begins with the student's perception that a more appropriate field of study could exist beyond the present majors. Consultation with the secretary of the IPS advisory committee and with faculty members in related fields will soon establish whether an original major is appropriate. Then, with the cooperation of one or more faculty members who consent to serve as advisers for this IPS program, an IPS major is planned and justified as carefully as if this were a departmental major. Although an IPS program is usually interdisciplinary, combining courses from several departments and even colleges, the IPS program is part of the sciences and letters curriculum. Thus, students are required to satisfy the sciences and letters requirements of Composition I and Composition II, Quantitative Reasoning I, general education, foreign language, and advanced hours; they must also complete at least 120 semester hours and satisfy the residence requirement.

Once an IPS program is formulated, the student and adviser make formal application to the IPS advisory committee, which evaluates and decides whether a proposed IPS program is appropriate for the aims of both the student and the college.

Students interested in IPS are encouraged to inquire at 912 South Fifth Street, Champaign, IL 61820, 333-4710, as early as possible in the sophomore year. In all cases, IPS programs must be initiated and approved before the end of the student's junior year.

**Departmental Distinction.** To graduate with distinction, a student must (1) have a cumulative grade point average of at least 4.25 (A = 5.0), and (2) successfully complete a project that has been approved by the IPS advisory committee. Further information on requirements for graduation with distinction may be obtained from the secretary of the IPS advisory committee.

### ITALIAN

This major is sponsored by the Department of Spanish, Italian, and Portuguese. See page 146.

### LATIN AMERICAN STUDIES

**Requirement.** At least 45 hours.

A major in Latin American studies provides an integrated exploration of a major world area. Depending upon the student's interests and career aspirations, individual programs of study are designed in close consultation with the student adviser in the Center for Latin American and Caribbean Studies. All study programs should reflect an integrative, cross-disciplinary approach, and courses must be taken in at least three of these five areas or perspectives: 1) anthropological and geographical; 2) historical; 3) humanistic; 4) social, political, and economic; 5) ecological and environmental.

Students are also expected to demonstrate a substantial command of a Latin American language (Spanish, Portuguese, or Quechua), either through course work or by passing a proficiency examination. Students majoring in Latin American studies are urged to include, during the summer or regular academic year, a period of study abroad in Latin America.

**REQUIREMENTS**

The major consists of a minimum of 45 semester hours of course work as follows:

1. LA ST 170 (3 hours), normally taken in the freshman or sophomore year.
2. LA ST 290 (3 hours), a one-semester tutorial, normally taken in the senior year.
3. Completion of 33 semester hours of approved courses with Latin American content. Of these, 12 semester hours must be in courses in one of the following perspectives, and 9 semester hours in each of two other perspectives, as follows:
  - a. Anthropological and Geographical Perspective. Normally courses in anthropology and geography.
  - b. Historical Perspective. Normally courses in history.
  - c. Humanistic Perspective. Normally courses in Spanish and Portuguese literature, comparative literature, linguistics, art history, and music.
  - d. Social, Political, and Economic Perspective. Normally courses in sociology, rural sociology, political science, economics, and agricultural economics.
  - e. Ecological and Environmental Perspective. Normally courses in biology, forestry, and physical anthropology (primatology).
  - f. When appropriate, approved courses with Latin American content in other scientific and professional areas may be substituted for courses in the five perspectives listed above with the consent of the adviser in the Center for Latin American and Caribbean Studies.
4. Two courses (5 or 6 semester hours) in advanced conversation and composition in a Latin American language (Spanish, Portuguese, or Quechua) beyond the level specified by the LAS language requirement, or the equivalent as demonstrated by special examination. Students successfully completing the examination are expected to use these 5 or 6 hours in approved courses of Latin American content from any of the above perspectives (including literature courses). At the end of their language study, all students are urged to take an oral proficiency test based on ACTFL guidelines.
5. Each student's course of study is devised in consultation with the adviser in the Center for Latin American and Caribbean Studies and is subject to the adviser's approval.

**Departmental Distinction.** To be eligible, a student must achieve at least a 4.5 grade-point average in the major, complete a senior thesis, and receive the approval of the center's research committee.

**LIFE SCIENCES**

(Including Bioengineering; Biophysics; Biology General; Biology Honors; Cell and Structural Biology; Ecology, Ethology and Evolution; Entomology; Microbiology; Physiology; and Plant Biology)

**Requirements for All Options.** 43-47 hours as given below. (Advanced and additional requirements vary according to the option.)

**Mathematics.** 5 hours of calculus.

**Chemistry.** 13-15 hours of chemistry (through organic) with laboratory.

**Biology.** 15 hours of introductory biology with laboratory.

**Physics.** 10-12 hours of general physics with laboratory.

The School of Life Sciences (SOLS) departments have cooperated in developing a major in life sciences with a number of different options suitable for students with different educational objectives. Because of the interdependency of the biology subdisciplines and their reliance on the physical sciences, all undergraduates in this field are required to have a strong background in cognate sciences and broad exposure to biological materials, phenomena, and principles. Students who do not begin mathematics, chemistry, and biology in their freshman year generally will be at a disadvantage. In the advanced biological areas, students are expected to gain experience with living systems at the molecular, cellular, organismic, population, and community levels. The ways of achieving this training differ somewhat in the several options.

**NOTES:**

- Each student is required to complete all requirements of an elected option in order to satisfy the requirements of the life sciences major.
- A student majoring in an undergraduate program in the School of Life Sciences may not apply toward graduation more than 15 hours of 100-level life science courses (including cross-listed courses on this campus and courses transferred from other institutions).

- Because of the extensive overlap of core and cognate requirements among the various options offered by SOLS, students may not declare a second major/option within the school.
- A student majoring in an option in the School of Life Sciences may not take any course in biology; biophysics; cell and structural biology; ecology, ethology, and evolution; entomology; microbiology; physiology; or plant biology with the credit-no credit option until the semester subsequent to the completion of all requirements for the major.
- Majors in any SOLS option may count toward graduation no more than a combined maximum of 10 hours of 290, 292, and 294 credit offered in biophysics; cell and structural biology; ecology, ethology, and evolution; entomology; microbiology; physiology; and plant biology.

**OPTIONS****Bioengineering Option**

**Life Science Courses.** 8 hours of 300-level courses.

**Basic Science Courses.** 39-41 hours; plus 13-14 additional hours of mathematics.

**Bioengineering/Engineering Courses.** Minimum 9 hours.

Administered by the Department of Physiology and Biophysics, the bioengineering option represents a broad, interdisciplinary field that brings together engineering, biology, and medicine to study basic biological phenomena and to create new techniques and devices to deal with specific medical problems. Its practice ranges from the fundamental study of the behavior of biological materials to the development of medical instruments.

Students in this option must obtain a strong background in mathematics, physics, and chemistry in addition to the biological sciences. A number of engineering course sequences are also required. A student with specific career objectives in mind should consult with his or her adviser as early as possible in order to choose appropriate courses.

This option leads to a degree in life sciences. An engineering degree is possible through a five-year combined engineering-liberal arts and sciences program.

Courses in addition to those listed below may be required for entrance to medical or veterinary school or graduate programs in either engineering or the life sciences.

**REQUIREMENTS**

1. MATH 120, 130, 242; or 121, 131, 242; and 285 (or 135, 245, 285)
2. CHEM 231, 234; preceded either by 107, 108, 109, 110 (or by 101, 102)
3. BIOL 120, 121, and 122 (or approved equivalent)
4. PHYSICS 106, 107, and 108
5. BIOPH or PHYSYL 301, PHYSYL 302, PHYSYL 3046. Nine hours of engineering, bioengineering, and life sciences courses to be selected from a list available from the Bioengineering Office or LAS Bioengineering faculty adviser.

**Recommended Supporting Course Work:**

1. Physiology
2. Biophysics
3. Advanced engineering or physics courses
4. Biochemistry
5. Physical Chemistry

**Distinction.** In addition to the above requirements, candidates must enroll in BIEN 270 and, working with a bioengineering faculty adviser, prepare a report based on laboratory or library research. This report will be submitted to a committee, which will recommend the level of distinction.

**Biology General Option**

**Life Science Courses.** 18 hours of 200- and 300-level courses

**Supporting Courses.** 43-47 hours

This option provides flexibility by allowing the student to design his or her own program. In selecting courses at the 200 and 300 level, the student should strike a balance between breadth and specialization. Students electing this option, therefore, should discuss these matters with their adviser.

**REQUIREMENTS**

1. MATH 120 or 135
2. CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234 (or 236 and 237)
3. BIOL 120, 121, and 122
4. PHYSICS 101 and 102 (or 106, 107, and 108)

- At least five additional courses in life sciences at the 200 and 300 levels, including two courses that include field and/or laboratory experience. Total credit in these courses must be at least 18 hours. At least one course in each of the following four areas must be taken.
  - Biological Processes at the Cellular and Subcellular Level
  - Biological Processes at the Organismal Level
  - Biological Processes at the Level of Population and Higher
  - Diversity of Life

Special topics course(s) (BIOPH 290, CSB 290, EEE 290, ENTOM 290, MCBIO 290, PHYSL 290, PLBIO 290) will not satisfy the five-course requirement.

**Strongly Recommended.** BIOCH 350 or equivalent; MATH 130 or 245 or BIOL 371 or equivalent.

**Other Recommendations.** Students are encouraged to involve themselves in special topics courses (BIOPH 290, CSB 290, EEE 290, ENTOM 290, MCBIO 290, PHYSL 290, PLBIO 290) and in additional calculus, statistics, computer science, and biochemistry courses.

**Distinction.** To be eligible for distinction a student must maintain a minimum grade-point average of at least 4.0, and submit a report of an independent study project (290 or 292 rubric) one month prior to graduation for approval by the Biology Distinction Committee.

### **Biology Honors Option**

**Life Science Courses.** 24 hours of 200- and 300-level courses.

**Supporting Courses.** 50-59 hours.

This option, administered by the Biology Honors Committee, is designed for superior students wishing to pursue an intensive introductory biology program and, concurrently, to gain a strong background in the physical sciences. The option provides preparation suitable for graduate and professional training in biology.

### **REQUIREMENTS**

- Admission by interview in the spring of the freshman year
- MATH 120, 130, and 242 (or 121, 131, 242, or 135, 245)
- CHEM 107, 108, 109, 110, 236, and 237 (or 101, 102, 236 and 237<sup>1</sup>)
- BIOL 250, 251, and 252<sup>2</sup>
- BIOCHEM 350 and 355 (or 352, 353, and 355)
- PHYS 106, 107, and 108
- An approved 200- or 300-level course in statistics<sup>3</sup>
- Ten hours of 300-level life sciences courses (other than BIOL 371). Two hours of undergraduate research courses (290 or 292) may be substituted.
- Students must consult with their biology honors adviser at least once a semester.

**Distinction.** In addition to the above requirements, candidates for distinction must:

- Consult with the biology honors adviser early in their junior year,
- Complete an undergraduate research project, and
- Present an acceptable written report on the research to the Biology Distinction Committee one month prior to graduation.

1. The former sequence is recommended, and preference will be given on admission to students following it.

2. Continuation in the biology honors option requires a grade of B or better in each of BIOL 250, 251, and 252.

3. BIOL 371, AGRON 340, IE 238, or MATH 361 (STAT 351) or 363 (STAT 310) are recommended, as is additional training in statistics. Suitable sequences for those taking more than a single course are BIOL 371; AGRON 340 and 440; and STAT 310 (MATH 363) and STAT 311 (MATH 364).

No 100-level course in life sciences (other than BIOL 120, 250 [formerly 151]) will count toward graduation.

Advisers may not make any substitutions or other changes in the above requirements.

200-level life science courses (except BIOL 250, 251, 252, and independent study courses) will not ordinarily satisfy biology honors program requirements.

### **Biophysics Option**

**Life Science Courses.** 6 hours of 200- and 300-level courses.

**Supporting Courses.** 59 hours.

This option is designed for the student who wishes a strong background in the physical sciences and mathematics, but is basically interested in the life sciences. It is designed to provide guidelines on which physical and life sciences courses especially complement each

other. Because of the many possible course choices available, it is important that students within this option consult their option adviser throughout the entire undergraduate program.

### **REQUIREMENTS**

- MATH 120, 130; (or 121, 131); 242 and 285
- CHEM 107, 108, 109, and 110; 231 and 234 (or 236 and 237)
- BIOL 120, 121, and 122
- BIOPH 254 or BIOCH 350 or equivalent
- PHYS 106, 107, and 108
- BIOL 301 and one of the following: BIOPH 320, 332, or 354

**Recommendations:** Highly recommended advanced undergraduate courses include:

- Biochemistry (BIOCH 355)
- Electromagnetic theory (PHYS 331 and 333)
- Kinetic theory, thermodynamics, and statistical mechanics (CHEM 344 or PHYS 361)
- Atomic physics (CHEM 342 or PHYS 383)
- Physical chemistry of macromolecules (CHEM 346)

The above listing of recommended courses is not intended to be limiting; the individual student should consult his or her faculty adviser about other advanced undergraduate cognate courses that may be taken toward fulfillment of the option requirement.

**Distinction.** To earn distinction in the biophysics option, the candidate must enroll in BIOPH 290 and, working with a biophysics faculty adviser, prepare a report based on theoretical or experimental research. This report will be submitted to a committee that will recommend the level of distinction to the faculty.

Students with alternative introductory sequences may petition for substitution.

### **Cell and Structural Biology Option**

**Life Science Courses.** 19 hours of 200- and 300-level courses.

**Supporting Courses.** 49-58 hours.

This option is intended to provide broad undergraduate training for students specifically interested in cell structure and function at the molecular, cellular, tissue, organ, or organismic levels. Students who choose this option will be prepared to pursue a course of study for an advanced degree in an area such as molecular biology, cell biology, molecular genetics, developmental biology, neuroscience, biochemistry, and anatomy, or for entry into technical occupations in research, industry, and the health professions.

### **REQUIREMENTS**

- MATH 120 and 130; or equivalent
- CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234 (or 236 and 237)
- BIOL 120, 121, and 122
- BIOCH 350 (or 352 and 353)
- PHYS 101 and 102 (or 106, 107, and 108)
- CSB 300 and 301
- A minimum of 11 hours of 200- and 300-level life sciences courses. At least three of these 11 hours must have the CSB rubric. Special topics course(s) (CSB 290) will not satisfy the 11-hour requirement.

**Recommendations.** Students with research interests are encouraged to take CSB 290 (Independent Study) which may be repeated to a maximum of 10 hours.

**Distinction.** To be eligible for departmental distinction, students must have at least a 4.0 average, enroll in CSB 290, and submit a research report approximately one month prior to graduation for approval by the CSB Distinction Committee.

### **Ecology, Ethology, and Evolution Option**

**Life Science Courses.** 17 hours of 200- and 300-level courses.

**Supporting Courses.** 43-47 hours.

This option, administered by the Department of Ecology, Ethology and Evolution, is intended to provide undergraduate training for life science majors who have a special interest in the closely related areas of ecology, animal behavior, and evolution. Students following this option will be prepared to pursue advanced degrees in ecology, animal behavior, and evolution or to compete for jobs in zoos, governmental agencies (such as the departments of conservation and the environmental protection agencies), environmental consulting firms, and pest management firms. Because of the broad scope of this option and the numerous relevant courses, specific course requirements are



few. The student, in consultation with an option adviser, should develop a program in biology with supporting course work in geology, geography, psychology, and related areas. Suggested course work for specialized areas can be obtained from the department.

#### REQUIREMENTS

1. MATH 120 or 135
2. CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234 (or 236 and 237)
3. BIOL 120, 121, and 122
4. PHYSICS 101 and 102 (or 106, 107, and 108)
5. EEE 212, 301, and 346
6. At least 6 additional life science hours at the approved 200-level or above, chosen in consultation with an adviser. Special topics course(s) (EEE 290 or 294) will not satisfy the 6-hour requirement.

**Strongly Recommended.** MATH 130 or 245 or BIOL 371 or equivalent; BIOCH 350 or equivalent.

**Other Recommendations.** Computer science (C S 103)

**Distinction.** To be eligible for distinction a student must maintain at least a 4.0 average (4.25 in option requirements), complete a research project, including at least two hours of EEE 290 or 294, and submit an acceptable research report.

#### Entomology Option

**Life Science Courses.** 18 hours of 200- and 300-level courses.

**Supporting Courses.** 46-51 hours.

This option is intended to provide undergraduate training to life science majors who are interested in careers in entomology in an academic, governmental, or industrial setting. Opportunities are provided within the option for students to obtain a broad science background for advanced work and to obtain exposure to a wide variety of entomological specializations.

#### REQUIREMENTS

1. MATH 120 or 135
2. CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234 (or 236 and 237)
3. BIOL 120, 121, and 122
4. PHYSICS 101 and 102 (or 106, 107, and 108)
5. ENTOM 301 and 302 plus one additional 300-level entomology course
6. An approved course in statistics (e.g., BIOL 371 or equivalent)
7. Eight hours of additional life science courses chosen in consultation with an entomology adviser. If ENTOM 301 is taken for 5 hours credit, only 6 hours of additional life science courses need be taken. Special topics course(s) (ENTOM 290) will not satisfy the 8-hour requirement.

**Strongly Recommended.** BIOCHEM 350 or equivalent.

**Other Recommendations.** Undergraduate research (ENTOM 290) directed by a member of the Department of Entomology.

**Distinction.** Candidates must maintain a 4.0 average overall (4.5 in entomology courses) and complete an undergraduate thesis based on a project agreed upon with the departmental adviser (minimum of 4 hours credit in ENTOM 290). The Departmental Distinction Committee shall, upon approval of the thesis, determine the level of distinction. See the adviser for details at the beginning of the junior year.

#### Microbiology Option

**Life Science Courses.** 20-26 hours of 200- and 300-level courses.

**Supporting Courses.** 49-57 hours.

This option is intended to provide a strong background in microbiology and related disciplines. Students satisfying the requirements of the microbiology option should be well-prepared for advanced study or employment not only in microbiology, but also in other biological disciplines, in health-related fields, and in biotechnology.

#### REQUIREMENTS

1. MATH 120 or 135
2. CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234
3. BIOL 120, 121, and 122
4. BIOCH 350 (or 352 and 353); 355 (or CHEM 122)
5. PHYSICS 101 and 102 (or 106, 107, and 108)
6. MCBIO 200 and 201
7. At least 14 hours of 300-level microbiology courses, including at least one course from each of groups I, II, III, and including at least two laboratory courses from group IV.

Group I: MCBIO 316, 330

Group II: MCBIO 309, 331, 351

Group III: MCBIO 311, 326, 327

Group IV: MCBIO 312, 317, 327, 328

**Recommendations.** Independent laboratory study (MCBIO 290 or 292) is recommended, but not required. Three hours or more of MCBIO 290 or 292 may replace one of the laboratory courses in Group IV, but at least 14 hours of 300-level microbiology courses must be completed.

**Distinction:** In addition to the requirements above, candidates for distinction must submit a satisfactory senior research thesis (MCBIO 292) and maintain a minimum grade-point average of 4.25 (A = 5.0) in fulfilling all requirements. Contact the microbiology undergraduate adviser at the midpoint of the junior year. The department recognizes a single level of distinction.

#### Physiology Option

**Life Science Courses.** 19-21 hours of 200- and 300-level courses.

**Supporting Courses.** 49-60 hours.

Physiology is the study of how molecules, cells, organs, and organisms function with strong emphasis on regulation and integration. It uses the methods of biochemistry, biophysics, cell biology, molecular biology, and a host of other more fundamental disciplines. Physiology is an integrative science because it explains how biological elements work together as systems. Identified specialties within physiology include molecular physiology, membrane physiology, electrophysiology, cellular physiology, respiratory physiology, cardiovascular physiology, neurophysiology, endocrinology, comparative physiology, and others. Study in these specialties ranges from cellular and molecular systems to interrelations between organs and whole organisms and interactions between organisms and their environment.

In order for physiology students to take courses related to their areas of special interest, it is essential to consult with the physiology advisers as early as possible.

#### REQUIREMENTS

1. MATH 120 and 130; (or 135 and 245); or equivalent
2. CHEM 107, 108, 109, and 110 (or 101 and 102); 231 and 234
3. BIOL 120, 121, and 122
4. BIOCH 350 (or 352 and 353)
5. At least one year of physics (PHYSICS 106, 107, and 108 recommended; 101 and 102 acceptable)
6. PHYSYL 301, 302, 303, and 304 (PHYSYL 290 or 292, BIOCH 355, or another laboratory course in physiology may be substituted for either 303 or 304, but not both).
7. A minimum of 9 additional hours of upper-division credit in physiology or biophysics chosen from among the following:  
BIOL 303  
CSB 308  
BIOPH 354  
PHYSYL 312, 315, 316, 331, 341

**Distinction.** Candidates for distinction must have at least a 4.0 average, enroll in PHYSYL 292 and, working with a faculty adviser, prepare a report based on laboratory or library research. This report will be submitted to a committee, which will recommend the level of distinction.

#### Plant Biology Option

**Life Science Courses.** 18 hours of 200- and 300-level courses.

**Supporting Courses.** 43-47 hours.

This option provides training for students who seek a broad plant biology background in preparation for advanced work in plant biology or applied plant sciences. It provides opportunity for study of a wide variety of basic and applied specializations.

#### REQUIREMENTS

1. MATH 120 or 135
2. CHEM 101 and 102 (or 107, 108, 109, and 110); 231 and 234
3. BIOL 120, 121, and 122
4. PHYSICS 101 and 102 (or 106, 107, and 108)
5. One course in each of the following four areas of study:
  - a. Plant Evolution and Systematics (PLBIO 260 or 304)
  - b. Plant Physiology and Biochemistry (PLBIO 330)
  - c. Plant Anatomy and Development (PLBIO 335 or 345)
  - d. Plant Ecology (PLBIO 381)
6. At least 2 hours of individual study (PLBIO 290 or 292) during the junior or senior year.

**Strongly Recommended.** MATH 130 or 245 or BIOL 371 or equivalent; BIOC 350 or equivalent.

**Other Recommendations.** Additional courses selected in consultation with a faculty adviser from the following: agronomy, biochemistry, biology, chemistry, ecology, entomology, forestry, geography, geology, horticulture, mathematics, microbiology, physics, physiology, and plant pathology. Other fields may be considered through consultation with a faculty adviser.

**Distinction.** In addition to meeting the requirements above, a candidate for distinction must maintain a grade-point average of 4.25 overall and 4.5 in life science courses and must submit a satisfactory senior thesis (PLBO 292). Contact the plant biology undergraduate adviser by the junior year for details. The department recognizes a single level of distinction.

## LINGUISTICS

**Linguistics Courses.** 30 hours.

**Supporting Course Work.** 6 to 8 hours of Western civilization, plus 14 hours chosen in consultation with an adviser.

The Department of Linguistics offers undergraduate instruction of two types.

1. General linguistics courses have two purposes: they are intended to prepare students for various careers in which the scientific study of language is of significance; they are, furthermore, the basis for continued professional training toward the M.A. and Ph.D. degrees in this field.
2. Non-Western language courses are offered regularly in Arabic, Hebrew, Hindi, Persian, Sanskrit, and various African languages (Bamana, Lingala, Swahili, Wolof, and Zulu). One language, Hebrew, may be taken as an option of the major (see The Hebrew option below).

## REQUIREMENTS AND OPTIONS

### General Linguistics Option

**Linguistics Courses.** 30 hours, including LING 200, 210, 225, 300, 301, and 302. The remaining core courses are to be selected from among other 200- and 300-level courses. Students are expected to take two courses in each of two special areas of linguistics, such as psycholinguistics, applied linguistics, sociolinguistics, mathematical and computational linguistics, non-Western language structure, and area linguistics (African, Classics, Far Eastern, Germanic, Indo-European, Romance, Semitic, Slavic, South Asian). Advanced course work includes LING 290 and 291, and 300-level linguistics courses.

**Supporting Course Work.** 14 hours, in linguistically relevant courses chosen in consultation with an adviser. These may come from any of the following disciplines: anthropology; classics; computer science; English; English as an international language; French; Germanic; philosophy; psychology; Slavic; Spanish, Italian, and Portuguese; speech and hearing science; and speech communication. In addition, students are strongly encouraged to take two years of a second foreign language in addition to the language used to satisfy the college foreign language requirement. This second language may be either a Western or non-Western language.

**Western Civilization.** 6 hours of western civilization (HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142).

**Departmental Distinction.** Students are strongly encouraged to fulfill the requirements for completing their program with departmental distinction. Candidates for the degree with distinction must register their candidacy with their adviser no later than the beginning of the second semester of their junior year. They must achieve a grade-point average of at least 4.4 ( $A = 5.0$ ) for the required 30 hours in linguistics, including at least 4 hours of credit for Honors Individual Study (LING 291). For graduation with high or highest distinction, students must satisfy the same minimum requirements, plus submit a senior honors thesis to the Department of Linguistics by the first day of the month preceding the month of graduation.

### Hebrew Language and Linguistics Option<sup>1</sup>

This option provides the student with a broad knowledge of the Hebrew language, both modern and biblical, as well as with introductory training in general linguistics.

**Hebrew Language Courses.** 30 hours, including LING 200 and one other course in linguistics; HFBR 305, 306, 307, and 308; and 8 hours of biblical Hebrew, chosen from HFBR 205, 206, 210, 311. All substitutions must be approved by the coordinator of the option.

**Supporting Course Work.** 14 hours, which should constitute a coherent program complementing the major in Hebrew language and linguistics. Possible supporting courses include Jewish culture and society, biblical literature, anthropology, classics, and additional languages. The program of supporting course work will be planned by the student in conjunction with the Hebrew language coordinator.

**Western Civilization.** 6 hours of Western civilization (HIST 110 or 111 and HIST 112 or 113 or C LIT 141 and 142).

**Departmental Distinction.** Students are strongly encouraged to fulfill the requirements for completing their program with departmental distinction. Candidates for the degree with distinction must register their candidacy with their advisers no later than the beginning of the second semester of the junior year. They must achieve a grade-point average of at least 4.4 ( $A = 5.0$ ) for the required 30 hours in linguistics, including at least 4 hours of credit for Honors Individual Study (LING 291). For graduation with high or highest distinction, the student must satisfy the same minimum requirements, plus submit a senior honors thesis to the Department of Linguistics by the first day of the month preceding the month of graduation.

1. A revision in requirements was pending at time of publication. Students should consult with the departmental adviser.

## MATHEMATICS

(Majors in Actuarial Science, Mathematics, and Mathematics and Computer Science)

### ACTUARIAL SCIENCE

**Mathematics Courses.** 27 hours beyond the calculus.

**Finance Courses.** 12 hours.

**Supporting Course Work/Prerequisites.** 10-11 hours of calculus and 3 hours of computer science.

The major is designed to prepare students to enter the actuarial profession.

### REQUIREMENTS

1. Calculus through MATH 242 or 245, or equivalent
2. C S 101 and 110, 105, or 125, or equivalent
3. MATH 210, 308, 309, 369
4. MATH 315 or 383
5. One of the following: MATH/C S 257, MATH 370, 376, 393, 394, or 383 (if not used to satisfy requirement #4), or ECON 372
6. MATH 371, and either 372 or one of: MATH 313, 318, 344, 347, 358, 365, 368, 384; C S 225, 232, 300 (replacement for MATH 372 needs adviser approval)
7. Four finance courses chosen, in consultation with an adviser, from FIN 254, 260, 262, 300, 323, 341, 343, 345, 360, 361, 363, 364

**NOTE:** The student is urged to elect ACCY 200 or 201, or B ADM 261, in the junior or senior year.

**Departmental Distinction.** To qualify for distinction, the student must take MATH 372, have a grade-point average in mathematics courses of at least 4.25, and pass at least six hours of examinations offered by the professional actuarial societies. To qualify for high or highest distinction, the student must have passed at least eight hours of professional exams, with highest distinction going to those whose grade-point averages in mathematics are at least 4.75. Finance courses and additional professional exams may also be given consideration in close decisions.

## MATHEMATICS

**Mathematics Courses.** 27-28 hours beyond calculus.

**Supporting Course Work/Prerequisites.** 10-11 hours of calculus, 3 hours of computer science, and either a minor or at least 12 hours of supporting courses chosen in consultation with an adviser.

Mathematics is a broad discipline that contains a range of areas of specialization within it. The required courses in Part I provide fundamental background for mathematics in general. The options in Part II allow the student to broaden this background or begin to specialize. Also see the sections on majors in actuarial science, mathematics and computer science, and statistics, and the curriculum for the teaching of mathematics.

An entering student in mathematics should have academic preparation to enroll in MATH 120 during the first semester. Admission to

MATH 120 requires a passing grade on the mathematics placement test. A student should attain grades of B in calculus in order to complete the advanced courses successfully.

#### REQUIREMENTS

PART I: The following are required of all students:

Calculus through MATH 242 or 245, or equivalent

C S 101 and 110 or C S 125—computer science

MATH 247—Fundamental Mathematics

MATH 315 or 318—Linear Algebra

MATH 344 or 347—Real Analysis

MATH 361 or 363—Probability-Statistics

Any minor or at least twelve hours of approved supporting course work.

PART II: Each student must fulfill the requirements of one of the following options:

#### Mathematics Option

MATH 317—Introduction to Abstract Algebra

At least one of MATH 302, 303, 323, 381—Geometry

Three additional advanced mathematics courses.<sup>1</sup>

#### Graduate Preparatory Option

MATH 317 and 318—Algebra

MATH 347 and 348—Analysis

MATH 323 or 332—Curves and surfaces, or topology

Two additional advanced mathematics courses.<sup>1</sup>

#### Applied Mathematics Option

MATH 341—Differential Equations

MATH 346 or 348—Complex variables

One of the three courses:

MATH/C S 257—Numerical Methods

MATH 342—Fourier Series and Boundary Value Problems

MATH 385—Differential Equations, II

One of the three courses:

MATH 312 or 313—Discrete math

MATH 317—Introduction to Abstract Algebra

One additional advanced mathematics course.<sup>1</sup>

#### Operations Research Option

MATH/C S 257—Numerical Methods

MATH 363/STAT 310 and either MATH 364/STAT 310 or MATH

369/STAT 320—Statistics

MATH 383 and 384—Optimization

MATH 312 or 313—Discrete math

1. MATH 247, 280, 285, and all 300-level mathematics courses are advanced courses. In the applied mathematics and operations research options MATH/C S 257 will be accepted as a substitute for an advanced course in this major.

**Departmental Distinction.** Distinction will be awarded on the basis of selection of 300-level courses in mathematics and the grade-point average.

#### MATHEMATICS AND COMPUTER SCIENCE

This major is sponsored jointly by the Departments of Mathematics and Computer Science. See page 140.

#### MUSIC

**Music Courses.** 37 to 41 hours (excluding keyboard skills requirement).

**Supporting Course Work.** 11 to 12 hours chosen in consultation with an adviser.

The major in music is designed for students whose academic interests are broader or more compelling than can be accommodated within the several music programs in the College of Fine and Applied Arts (page 115). This program, which incorporates a high degree of flexibility beyond the core of required courses, can prepare the way for graduate study in music theory, composition, or the various branches of musicology. (Those students interested in performance or music education may refer to the fine and applied arts curricula starting on page 106 of this catalog.)

#### REQUIREMENTS

All students in the music major must complete or pass proficiency tests in the following core of courses for a total of 29 to 31 credit hours:

MUSIC 101-104, 107-109, and one 300-level music theory course

MUSIC 110, 213-214, and one 300-level musicology course

All students in the major must possess or acquire some mastery of keyboard skills, by successfully completing MUSIC 160 and 161, or by demonstrating such skills through an appropriate audition. (Students who wish to study voice or an instrument for credit are required to satisfy the instrumental or vocal qualifying audition designed for students outside the School of Music; credits earned in applied music beyond the keyboard requirement stated above are generally considered elective.) Students in this program may not use hours from MUSIC 100 toward the minimum 120 hours for graduation. Normally, students begin the study of music theory with MUSIC 101.

The remainder of the program, consisting of at least 8 or 9 additional hours of upper-level music courses and 11 or 12 hours of supporting course work in other fields, is planned by the student with the help of the LAS music department adviser. Three general options are available in the music major: music history, ethnomusicology, and music theory/composition. The choice of courses within these options may vary considerably according to the interests of the student. The following models illustrate the types of programs recommended but specify neither absolute requirements nor limitations.

#### OPTIONS

##### Ethnomusicology Option

1. With emphasis on American Indian cultures.

a. MUSIC 308, 317 (6 hours), and one additional course from the series 310-315

b. Supporting course work chosen from ANTH 103, 230, 331 (or 333, 361); RELST 363; HIST 151, 152

2. With emphasis on India and Middle Eastern culture.

a. MUSIC 308, 317 (6 hours), and one additional course from the series 310-315

b. Supporting course work chosen from ANTH 103, 230

3. With emphasis on African and Afro-American cultures.

a. MUSIC 308, 317 (6 hours), and one additional course from the series 310-315

b. Supporting course work chosen from ANTH 103, 230, 261; one sequence in Afro-American history, such as ANTH 367 and HIST 215, or HIST 253 and 254

##### Music History Option

1. With emphasis on Medieval/Renaissance music.

a. MUSIC 308, and either 310 or 311

b. Supporting course work chosen from HIST 111, 112, 203, 204, 304, 305 (or 332, 333); a course in Medieval or Renaissance literature (e.g., ENGL 202, 204; C LIT 204); ARTHI 111; LAT 101, 102

2. With emphasis on music since the Renaissance.

a. MUSIC 308, 313, 314, 315

b. Supporting course work chosen from HIST 111, 112, 309, 310 (or 312, 313); ENGL 206; ARTHI 112

##### Music Theory/Composition Option

1. With emphasis on music theory.

a. MUSIC 300 through 308

b. Supporting course work chosen to include MATH 118; one course in English composition (e.g., RHET 133 or equivalent); and one course in philosophy with emphasis on aesthetics (e.g., PHIL 101, 102, 105, 323)

2. With emphasis on composition.

a. Music courses chosen from MUSIC 106, 204, 206, 304, 306, 321, 322, 328

b. Supporting course work chosen to include MATH 118; one course in English composition (e.g., RHET 133 or equivalent); and one course in philosophy with emphasis on aesthetics (e.g., PHIL 101, 102, 105, 323)

**Departmental Distinction.** Students interested in attaining departmental distinction should consult with the LAS music adviser no later than the second semester of their junior year. In order to be eligible for departmental distinction, a student must have a cumulative grade-point average of 4.4 or above (at the end of the sixth semester) and must complete four hours of MUSIC 229—Thesis and



Advanced Undergraduate Honors in Music. Distinction will be recommended at the discretion of the faculty after an evaluation of the student's overall record and the completed thesis.

## PHILOSOPHY

**Requirements.** At least 44 hours.

**Philosophy Courses.** At least 26 hours

**Supporting Course Work.** At least 12 hours, plus 6 to 8 hours in a Western civilization sequence.

Philosophy is the oldest, broadest, and most fundamental form of inquiry. Some philosophical questions have to do with the understanding of ourselves and whatever else there may be. Others focus upon the nature of different forms of knowledge and experience, and upon ethical issues and problems of value. The study of philosophy is one of the most important elements in a good liberal education. It also improves one's ability to think clearly, and to construct, analyze, and criticize arguments of any kind.

### REQUIREMENTS

The major in philosophy involves taking a minimum of 44 hours of philosophy and supporting course work, and consists of four parts: (1) the core philosophy courses (14 hours); (2) a program of supporting course work, involving at least 12 hours of course work in some other department(s); (3) a Western civilization sequence (6 to 8 hours); and (4) at least 12 hours of further course work in philosophy beyond the 100 level, including at least three additional 300-level courses.

1. **Philosophy Courses.** If possible, students should take these courses prior to the senior year. Substitutions may be made only with the approval of the chair of the department.
  - a. PHIL 102—Logic and Reasoning; or PHIL 202—Symbolic Logic (those considering graduate work in philosophy should take PHIL 202) (3 hours)
  - b. PHIL 203—Ancient Philosophy (4 hours)
  - c. PHIL 206—Early Modern Philosophy (4 hours)
  - d. PHIL 321—Ethics and Value Theory (3 hours)

2. **Supporting Course Work.** A student may select either of two types of programs of supporting course work and should work out a specific program of the type chosen with the help and approval of a departmental adviser.

*Option I: Intensive study in another discipline.*

This comprises a minimum of 12 hours of course work, normally beyond the 100 level, in one other discipline. Most approved minors satisfy this requirement.

*Option II: A special program of study built around a unifying theme or topic.*

This involves a minimum of 12 hours of course work outside philosophy in one or more other discipline(s), normally beyond the 100 level, together with one or more philosophy course(s) related to the theme or topic. The program may focus upon a historical period, a certain subject (e.g., language, politics, science, religion, art), or a particular philosophical problem, with outside course work in appropriate disciplines.

3. **Western Civilization General Education Sequence.** To ensure that they have a general knowledge of Western civilization, including philosophy, majors must take an approved two-semester sequence in Western civilization—currently either HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142.
4. **Further Course Work.** The remainder of a student's major is planned by the student with the help and approval of an adviser. It may include additional supporting course work in other disciplines, but must enable the student to satisfy the requirement of a total of at least 12 hours of course work in philosophy beyond the 100 level (including at least three 300-level courses) in addition to the core courses.

**Departmental Distinction.** Eligibility for distinction may be pursued by either: (1) the *thesis* option, which requires at least 29 hours of philosophy courses (including 5 advanced courses), a grade-point average of 4.0 in all philosophy courses, and writing a thesis; or (2) the *course work* option, which requires 35 hours of philosophy (including 8 advanced courses) and a 4.5 grade-point average in all philosophy courses. For further information, inquire in the department office.

## PHYSICS

**Physics Courses.** 20 hours (200- or 300-level courses).

**Supporting Course Work/Prerequisites.** 10 or 11 hours of calculus, 12 hours of general physics, and 20 hours chosen in consultation with an adviser.

This major allows students maximum flexibility to develop scientifically oriented careers in fields requiring a physics background. Entering freshmen are expected to enroll for the fall term in PHYCS 100 (under development as PHYCS 199B) when they will meet with other physics majors, learn about the University, and explore physics as a profession. See also the sections on the curriculum in engineering physics, LAS physics, and LAS teaching of physics.

### REQUIREMENTS

1. General physics and calculus satisfied by the sequence PHYCS 106, 107, and 108, or equivalent, together with the sequence MATH 120, 130, and 242, 285 and 280, or equivalent.
2. Twenty hours of 200- or 300-level physics courses including PHYCS 225, 326, 301, 335, and 336', and excluding PHYCS 319.
3. Fourteen additional hours of course work oriented toward physical science selected with departmental approval from the following areas, with at least two courses in each area chosen: astronomy, atmospheric sciences, chemistry, computer science, various branches of engineering, environmental sciences, geology, life sciences, mathematics, philosophy, social sciences, and education oriented toward the teaching of science.

**Departmental Distinction.** Same as those listed under the curriculum in physics. See page 153.

1. This represents revisions in the major pending final approval at time of publication.

## POLITICAL SCIENCE

**Political Science Courses.** 27 hours, including POL S 150.

**Supporting Course Work.** 20 hours chosen in consultation with an adviser.

The Department of Political Science encourages students to acquire a broad understanding of political science and to pursue in depth selected subfields of the discipline. To accomplish these objectives, the department provides courses of study that introduce students to the discipline and to its principal fields. Among these are American government and politics; comparative government and politics; international relations; political philosophy; and formal theory and empirical methodology. Supporting courses are an integral part of the program and should be selected with a view toward building a coherent selection adapted to the student's particular interests.

### REQUIREMENTS

The major in political science requires 47 hours. Of these, 27 hours must be within the Department of Political Science. They must include the following:

1. POL S 150
2. Any three of the following: POL S 100, 240, 250, 260, 270, 280
3. At least four courses at the 300 level. (Most 300-level courses will require as prerequisites the appropriate 200-level courses [or, in the case of American politics courses, POL S 150] or the consent of the instructor.) Up to 6 hours of credit in POL S 299 may be substituted for 300-level credit. POL S 296 and 297 count for this purpose as 300-level courses.
4. Three additional hours at any level.

Not more than 6 hours of individual study courses in political science or 6 hours for internships may be included in the major; a student with both independent study hours and internship hours may include a maximum of 9 hours of such credit in the major. POL S 293 is reserved for those seniors doing honors theses for distinction in political science and may not be counted in the 47-hour minimum required for the major.

Outside the department, at least 20 hours of credit in supporting course work is required in a field or fields to be selected in consultation with the student's adviser. Supporting courses should complement subfields in political science chosen by the student. At least 12 of these 20 hours must be in courses numbered 200 or above.

**Departmental Distinction.** The department may award "distinction," "high distinction," or "highest distinction" to any political

science major whose grade-point average in the major is 4.25 or higher and who successfully completes 4 hours of POL S 293 (senior honors thesis). See the departmental academic adviser for details.

## PORTUGUESE

This major is sponsored by the Department of Spanish, Italian, and Portuguese. See page 146.

## PSYCHOLOGY

**Psychology Courses.** 32 hours including an introductory course.

**Supporting Courses.** 12 hours chosen in consultation with an adviser.

Psychology is the scientific study of human and animal behavior. Psychologists study behavior in systems ranging from single cells to the individual person, from small groups to communities. Psychologists strive to describe behavior and to understand its underlying biological and social mechanisms. This enterprise, designed to better understand human behavior, accumulates knowledge that can help solve problems faced by individuals and by communities.

Some areas of interest in psychology:

*Biological psychology* is the study of the biological mechanisms underlying behavior. Biological psychologists generally are interested in the brain and the nervous system, in the endocrine system, and in other organismic processes.

*Clinical psychology* is the study of problems encountered by individuals, groups, and families—especially problems involving psychopathology. Clinical psychologists are interested in the application of psychological knowledge and techniques for the alleviation of these problems.

*Community psychology* is the study of social processes and problems of groups, organizations, and neighborhoods, and the development and evaluation of progress for social change and social policy based on psychological understanding.

*Developmental psychology* is the study of intellectual development, emerging personality, and the acquisition of language, as well as psychophysiological and social development processes as individuals develop from birth through old age.

*Engineering psychology* uses scientific study to develop an understanding of human behavior, and to improve the efficiency of interactions between humans and machines.

*Experimental psychology* is the study of basic behavioral and cognitive processes, including learning, memory, perception, attention, problem solving, motivation, and psycholinguistics.

*Measurement and mathematical psychology* specialists develop mathematical models of psychological processes and devise methods for quantitative representation and analysis of data about behavior. These are used in the study of differences between individuals in ability, personality, preferences, and other psychological phenomena.

*Personality psychology* focuses on individual behavior. It is the study of ways to understand and describe an individual's behavior and to predict an individual's future behavior.

*Personnel psychology* is the application of techniques of assessment, prediction, and intervention to areas of human resources in organizations, including, but not limited to, standard personnel selection and training, attitude assessments and interventions, and program evaluations.

*Social psychology* is the study of attitudes, social perception and cognition, interpersonal relations, interpersonal interactions, and social and cultural factors affecting human behavior.

### REQUIREMENTS

**Psychology Requirements.** A minimum of 32 hours in psychology including 12 hours of advanced courses. Advanced courses in psychology include PSYCH 291, 293, 294, 297, 298, and all 300-level courses.

1. Introductory course in psychology (PSYCH 100, 103, or 105)
2. Statistics for psychologists (PSYCH 235 or equivalent)
3. Two courses from the following: PSYCH 210—The Brain and Mind; PSYCH 217—Comparative Development; PSYCH 224—Cognitive Psychology; PSYCH 230 Perception and Sensory Pro-

cesses; PSYCH 248—Psychology of Learning and Memory; PSYCH 258—Human Factors in Human-Machine Systems

4. Two courses from the following: PSYCH 201—Introduction to Social Psychology; PSYCH 216—Child Psychology; PSYCH 238—Abnormal Psychology; PSYCH 239—Community Psychology; PSYCH 245—Industrial/Organizational Psychology; PSYCH 250—Psychology of Personality
5. A laboratory/research methods course in psychology selected from PSYCH 211, 231, 311, 329, 331, 332, 333, 345, 347, 350, 363, 390, or an independent study/laboratory experience (e.g. PSYCH 294) which has the recommendation of the faculty sponsor and the approval of the Undergraduate Studies Committee as being an appropriate substitute for the laboratory course experience.
6. A minimum of 12 hours of advanced psychology courses taken in residence at UIUC.

**Supporting Course Work Requirements.** A minimum of 12 hours is required in course work outside psychology that will complement the core program. These courses must be approved by an academic adviser.

### UNDERGRADUATE AREAS OF EMPHASIS

A number of emphases within the major in psychology are designed for students who are seeking general liberal arts degrees, applied degrees, or degrees that will provide a solid academic background in preparation for graduate education in psychology and related fields. Lists of the required and suggested courses are available from the psychology undergraduate advising office.

General psychology is designed for students interested in a broad liberal arts education with psychology as a focal area and for students who plan to attend graduate or professional school in fields other than psychology. Examples of these specializations include premedicine, prelaw, and preparation for graduate work in fields such as social work, business administration, and labor relations.

Graduate preparatory in psychology is designed mainly to provide students with a solid academic background that will prepare them for graduate education in a number of psychology specializations. Career opportunities in these specializations vary, as does the required level of graduate school training. While a doctorate is needed for most areas of academic psychology, a master's degree is sufficient for careers in many applied psychology fields such as personnel psychology, measurement psychology, and engineering psychology.

The mental health workers program is designed to develop knowledgeable and experimental mental health practitioners capable of providing direct services to clients as well as supervising lower-level staff members in the implementation of treatment programs. Training includes a core of general and mental health-related psychology courses and a series of field placements.

A combined engineering-liberal arts and sciences five-year program leading to bachelor's degrees from both colleges (see page 85) is available with a psychology major. Psychology and supporting courses are combined with the student's engineering curriculum to provide a specialization in engineering psychology. Tailored to complement the engineering curriculum, this program can be of potential benefit to the student's engineering career or used as the foundation for graduate training in engineering psychology. An engineering psychology program might include PSYCH 103, 224, 230, 231, 235, 245, 248, 258, 301, 329, 356, and relevant seminars.

**Departmental Distinction.** Graduation with departmental distinction requires successful completion of the department's undergraduate honors program. This program is a three-semester pattern of courses designed to offer the promising undergraduate an opportunity to do sustained scholarly work in a specific research project, culminating in the preparation of a bachelor's thesis. Consult the undergraduate advisory office for details.

### ACADEMIC ADVISING

The psychology undergraduate advising office is open to help students choose patterns of courses relevant to the various major options and specializations, as well as to help students explore graduate school, professional school, and career options. Advising is done by the faculty and a staff of academic counselors.

A psychology student information center (PSI center), staffed by student volunteers, provides student-to-student information about various department and community educational opportunities, career and graduate school planning, and related topics.

**INTERDISCIPLINARY MINOR IN GERONTOLOGY**

A minor in gerontology is available for LAS majors in psychology and sociology. The minor is offered through the Departments of Community Health, Kinesiology, Leisure Studies, Psychology, and Sociology; the Division of Human Development and Family Studies; and the School of Social Work. Psychology and sociology students interested in the minor should consult with their major department's undergraduate studies director.

**REQUIREMENTS**

A minimum of 18 hours in gerontology distributed as listed in the following section are required. At least 6 hours of the total of 18 hours must be taken from outside the student's own department.

**HOURS**

3	BIOL 108—Biology of Human Aging, or
9	CSB 234—Functional Human Anatomy and PHYS 103—Introduction to Human Physiology with 4 hours credited to the minor, or
7	PHYS 103—Introduction to Human Physiology and KINES 359—Physical Activity and Aging with 7 hours credited to the minor
3	CHLTH/HDFS/LEIST/PSYCH/REHAB 214—Introduction to Aging, or equivalent, and
	Two courses in gerontology taken from:
3	HDFS 304—Gerontology
3	KINES 359—Physical Activity and Aging
3	LEIST 231—Leisure and Aging
3	SOC W 315—Social Work Services for the Aged
3	SOC 348—Sociology of Aging
18	Total minimum hours.

This total may be achieved through electives in gerontology selected from the list above or through up to 3 hours of internship or independent study credit.

**RELIGIOUS STUDIES**

The major requires at least 54 hours, depending on language requirement and course selection.

**CORE COURSES (Eight Courses)**

1. Comparative Perspectives: RELST 110
2. Biblical Studies: RELST 201 and 202
3. Asian Religions: RELST 104, 122, 132, or 286
4. Philosophy of Religion: RELST 230
5. Western Religions: RELST 120, 121, or 123 (To be chosen in consultation with adviser)
6. Western Civilization: HIST 110 or 111 and HIST 112 or 113, or C LIT 141 and 142

**AREAS OF INTEREST**

The following programs are examples of acceptable patterns for a major in religious studies. Individually designed programs worked out in consultation with an adviser may be approved by the director of the program. The supporting courses should provide a broader perspective on the area of interest or provide information or training in related areas. Courses taken to satisfy the core courses requirements may not normally be used to satisfy the requirements of an area of interest.

**Asian Religions (Ten Courses)**

1. Language. Four courses, normally in one language (e.g., Chinese, Japanese, Sanskrit, or a modern Indian Language)
2. Religious Studies. Three courses beyond the 100 level in Asian religions (at least one course in East Asian religion, and at least one course in a South Asian religion)
3. Supporting Courses. Three related courses (two beyond the 100 level) in either the East Asian or South Asian area

**Biblical Studies (Ten Courses)**

1. Language. Four courses in either Hebrew or Greek
2. Religious Studies. Two courses beyond the 100 level in the area of biblical studies
3. Supporting Courses. Four related courses beyond the 100 level

**Christianity (Ten Courses)**

1. Language. Four courses in an appropriate language (e.g., Greek, Latin, German) chosen in consultation with an adviser
2. Religious Studies. Three courses beyond the 100 level, including 340

3. Supporting Courses. Three related courses beyond the 100 level in the history, literature, or art of the Western cultural traditions

**Islam (Ten Courses)**

1. Language. Four courses in an appropriate language (normally Arabic)
2. Religious Studies. 103 and 123 and one course above the 100 level
3. Supporting Courses. Three related courses beyond the 100 level

**Judaica (Ten Courses)**

1. Language. Four courses in either classical or modern Hebrew
2. Religious Studies. Three courses beyond the 100 level in Judaica, including 342
3. Supporting Courses. Three related courses beyond the 100 level

**Philosophy of Religion (Ten Courses)**

1. Religious Studies. Five courses beyond the 100 level, including RELST 362.
2. Supporting Courses. Five courses (three beyond the 100 level, and another 300-level course in addition to 362) in philosophy

**Religion and Culture (Ten Courses)**

1. Religious Studies. Four courses beyond the 100 level
2. Supporting Courses. Six related courses (three beyond the 100 level) in the social sciences (anthropology, psychology, sociology), arts, and humanities, with at least one from each category. The supporting courses will also sometimes include two courses in an appropriate language (e.g., Chinese, Greek, Hebrew, German, Latin). The coherence of the program should be discussed with an adviser. (This area of interest is designed for students seeking a broad liberal arts education with a focus on religious studies. Persons thinking of the ministry or the rabbinate are encouraged to consider this area seriously.)

**Advanced Hours Requirement.** Students must elect, as part of the major, a minimum of 12 hours in 300-level courses or in 200-level courses approved specifically for advanced hours credit.

**Departmental Distinction.** Distinction in the program is granted on the basis of excellence in religious studies demonstrated in course work and in a senior thesis written in the context of RELST 293. The final determination of distinction is by vote of the faculty of the Religious Studies Program.

**RHETORIC**

This major is sponsored by the Department of English. See page 131.

**RUSSIAN AND EAST EUROPEAN STUDIES**

**Requirements.** At least 62 hours.

The aim of this major is to provide the student with an interdisciplinary focus in Russian and East European studies; a start toward the language training needed for specialization in this area; and a base in one discipline that will permit the student, without much additional work, to qualify for graduate study.

**REQUIREMENTS**

**Component 1.** Two courses (6 semester hours) in advanced conversation and/or composition (beyond the level specified by the LAS language requirement) in Russian or another language of Eastern Europe or the former Soviet Union, or equivalent proficiency. (Students contemplating graduate work in this major are advised to continue language study beyond these 6 additional hours.)

**Component 2.** At least 20 hours in Russian and East European studies core courses, including REES 200 (Introduction to Russia and Central Eurasia), REES 295 (Senior Seminar in Russian and East European Studies), and at least one course from each of three departments other than the department used for component 3 below. Although some of the courses used to count under component 2 may be from the same discipline as those under component 3, any one course may be counted in only one category. Courses currently being offered that focus entirely on Russian and East European studies include ANTH 382; ECON 357; GEOG 353; HIST 219, 320, 321, 326, 327, 328, 329, 330; POLS 345, 346; POLS 335, 346, 383; RUSS 113, 114, 115, 116, 119, 199, 215, 216, 222, 225, 315, 317, 324, 335, 337, 338, 360, 370; SLAV 319; SOC 350; and UKR 118, 398. Others may be counted with permission of the center director. (Language courses that concentrate on the basic skills



of speaking, listening, reading, and writing cannot be counted as part of this component, although Russian language courses may be used as part of component 3 as described below.)

**Component 3.** At least 20 hours in a single discipline. Among those disciplines that are most commonly used in this specialization are anthropology, economics, geography, history, political science, Russian language and literature, and sociology. Among disciplines also used are business administration, comparative literature, education, English, fine arts, French, German, journalism, linguistics, mathematics, philosophy, psychology, and various natural sciences. Others are permitted. If a foreign language is used for this component, 20 hours must be taken beyond the requirement of 6 additional hours outlined under component 1 above.

**Additional Courses.** In addition to the courses listed above, there are many others that consider this area to some extent and that may be counted for partial credit toward the fulfillment of the major. Students should consult with the center director for further information on such courses.

In selecting courses for the major, students should bear in mind the LAS advanced hours regulation that requires students to have 21 semester hours of 300-level and approved 200-level courses for graduation, of which at least 12 hours must be in courses directly applicable to the major. Courses at the 300 level that are selected for both components 2 and 3 above may be used to meet this requirement.

**Departmental Distinction.** To qualify for departmental distinction, a student must have at least a 4.5 GPA in the courses taken for component 2 above and must complete a substantial research paper in consultation with a faculty member affiliated with the center. Students who hope to qualify for distinction in this major should consult with the center director at the beginning of the junior year or earlier to prepare a suitable plan.

## RUSSIAN LANGUAGE AND LITERATURE

**Russian Courses.** 30 hours (beyond the 100 level).

**Supporting Courses.** 20 hours chosen in consultation with an adviser, including 6 to 8 hours of Western civilization.

Russian is spoken by some 250 million people and is used by many more in the Soviet Union and the countries of Eastern Europe. Russian is now second only to English as the language of science, and it is also the language of one of the world's great literatures. Persons trained in Russian normally find employment in teaching, governmental service, journalism, and research in many areas. Many students majoring in other fields find it useful to learn Russian as a valuable research tool. The major in Russian consists of at least 50 hours distributed as follows:

1. Russian language—at least 15 semester hours from the following courses: RUSS 200, 211, 212, 213, 214, 303, 304, 313, 314. Six hours must beat the 300 level. At least one conversation course and one composition course are required.
2. Russian literature and linguistics at least 15 semester hours, consisting of RUSS 215 and 216; either RUSS 315 or 317; and at least six hours from the following list: RUSS 222, 225 or 317, 301, 307 or 308, 324, 335, 337 or 338, 360, 370, 375, 376 (substitutions may be made with adviser approval).
3. Supporting course work—at least 20 semester hours, consisting of two semesters of Western civilization (either HIST 110 or 111 and HIST 112 or 113, or CLIT 141 and 142); plus one of the following five options, with the approval of the Russian adviser:
  - a. Area studies: 14 to 15 hours consisting of HIST 219; either RUSS 113 or 114; and at least three other courses on Russia, the former Soviet Union, or East Europe (offered by such units as anthropology, art history, architecture, Asian studies, cinema studies, communications, economics, education, geography, history, music, philosophy, political science, religious studies, sociology, theatre). See the Russian and East European Center for a list of current course offerings.
  - b. A single language other than Russian, or general methodology courses in the linguistics department (excluding Russian cross-listed courses): 12 to 14 hours of 200- and 300-level courses.
  - c. A national literature other than Russian, or general methodology courses in the comparative literature program (excluding Russian cross-listed courses): 12 to 14 hours.
  - d. A minor specified by another department or unit.
  - e. The non-Russian half of a double major.

- f. Any 12 to 14 hours constituting a plan of study that is intellectually or professionally coherent.

**Departmental Distinction.** Graduation with distinction may be earned by completion of any one of the following three options:

1. GPA in departmental courses of 4.75; or
2. GPA in departmental courses of 4.50, plus successful completion of RUSS 293; or
3. GPA in departmental courses of 4.50, plus successful completion of academic study trip to the former Soviet Union, documented by graded transcript.

See a departmental adviser to work out details, preferably two semesters before graduation.

## SOCIOLOGY

**Sociology Courses.** 32 hours, including SOC 100, 185, 200, 381.

**Supporting Course Work.** 12 hours.

Sociologists study the organization and construction of social relations among individuals, including phenomena such as family structures, the social organization of the workplace, and the criminal justice system. Sociologists generate, modify, and assess theories of social behavior and organization using a variety of analytic and methodological approaches.

### REQUIREMENTS<sup>1</sup>

The major requires at least 44 hours; 32 in the Department of Sociology and 12 (supporting course work) outside the department. The sociology hours must include these courses:

- SOC 100—Introduction to Sociology
- SOC 185—Introduction to Social Statistics
- SOC 200—Introduction to Sociological Theory
- SOC 381—Survey Research

Students may select any sociology courses to fulfill the remaining hours. Students may choose to focus on one substantive area of sociology. Each substantive area must include at least two courses from a specified list that is available from the Department of Sociology office. The substantive areas include

- Criminology, prelaw
- Sociology of health
- Work, stratification, and occupations
- Comparative sociology, international studies
- Demography
- Social psychology
- Science and technology
- Research methods/social statistics

Examples of requirements for two substantive areas follow:

**Demography.** Recommended for students interested in population studies. Students must take at least two of the following: SOC 270, 275, 276, 321, 337, 343, 364, 388.

**Criminology.** Recommended for students interested in professions related to the criminal justice system. Students must take at least two of the following: SOC 231, 317, 324, 331, 357, 358.

**Supporting Course Work.** Supporting course work should complement the student's chosen substantive area in sociology. All supporting course work is taken outside the Department of Sociology. A student may take supporting course work in one department, such as psychology, economics, history, or statistics, or from a variety of disciplines. With an adviser's approval, departmental or interdisciplinary minors may be used in lieu of supporting course work.

**Advising.** Each student should see a departmental adviser at least once a year to choose sociology courses and supporting course work, and to monitor progress.

**Departmental Distinction.** To graduate with distinction, a student must have a University grade-point average of at least 4.3, a sociology grade-point average of at least 4.5, and complete the senior honors seminar (SOC 295). See an undergraduate adviser for details.

<sup>1</sup> Revisions in the major were pending at time of publication. Consult departmental adviser.

## INTERDISCIPLINARY MINOR IN GERONTOLOGY

A minor in gerontology is available for LAS majors in psychology and sociology. See page 144 for a description.

## SPANISH, ITALIAN, AND PORTUGUESE

Spanish, Italian, or Portuguese Courses. At least 26 to 28 hours, depending on major.

**Supporting Course Work.** 15 to 18 hours (chosen in consultation with an adviser), or a minor (generally 18-21 hours).

### SPANISH

The major in Spanish consists of a minimum of 28 hours in Spanish beyond 104 and supporting course work (15 hours) or a minor (generally 18-21 hours) in a related area.

- At least 28 hours in Spanish courses above the 100 level, to include 20 hours of core courses and 8 hours of electives. SPAN 200 or equivalent advanced placement credit is a prerequisite for most 200-level courses. The core courses must include: two language courses (SPAN 210 and 214); one culture course (SPAN 240 or the indicated substitutions for the Culture of Spanish America); one Introduction to Hispanic Linguistics (SPAN 260); two Introduction to Literature courses (SPAN 225 and 227); one Spanish Peninsular literature course (SPAN 250 or 252); one Spanish American literature course (SPAN 254 or 256). Students who wish Honors in Spanish must enroll in SPAN 291.

The 8 additional hours, chosen by the student in consultation with the adviser, may include course work from the following groups: language (including linguistics), culture, literature, Spanish for industry and commerce, translation/interpretation. Literature courses in English will not count towards the major, except for SPAN 242 or 244, taken as a substitute for a departmental Spanish American culture course.

- At least 15 hours of supporting course work or a minor (generally 18-21 hours) in a related area of study, which will be chosen by the student and approved by the adviser. Such areas may include, for example, any other language and literature (including Portuguese, Catalan, and Italian courses), Latin American studies (exclusive of Spanish American literature courses), history, political science, biology (pre-med), international law (prelaw), economics and finance, business administration, education, architecture, fine arts, and journalism.

**Year Abroad Program.** See page 125.

### ITALIAN

The major in Italian consists of a minimum of 27 hours in Italian beyond 104 and supporting course work (15 hours) or a minor (generally 18-21 hours) in a related area. Specifically, the following are required:

- At least 27 hours in Italian courses above the 100 level, distributed as follows: one introductory course in the study of Italian literature (ITAL 200); four courses in Italian literature (chosen from among ITAL 313, 314, 320, 330, 340, 342); two courses in Italian language (ITAL 208 and one of the following 210, 220, 222, 280, 302); one in linguistics (ITAL 350 or 362), and one in Italian culture (ITAL 240, 306, 308).
- At least 15 hours of supporting course work or a minor (approximately 18 hours) chosen in consultation with an adviser, in one related area (or a combination, with no fewer than 8 hours in each). Areas may include, for example, any other language and literature, history, political science, biology (premed), international law (prelaw), economics, finance, business administration, education, architecture, fine arts, journalism.

### PORTUGUESE

The major in Portuguese consists of a minimum of 27 hours in Portuguese beyond 104 and supporting course work (15 hours) or a minor (generally 18-21 hours) in a related area. Specifically, the following are required:

- At least 27 hours in Portuguese courses above the 100 level. The core courses for the major include PORT 200, 210, 212, 220, 304, 306, 310, 320 and 362.
- At least 15 hours of supporting course work or a minor (approximately 18 hours) in a related area of study chosen by the student and approved by the adviser. There is a wide choice of supporting courses, because the student's interests may vary from Iberian literature to animal husbandry in Angola and urbanology in Brazil. Supporting areas may include humanities (comparative literature, comparative religion, linguistics, philosophy), social sciences (anthropology, geography, history, Latin American studies, political science, sociology), education, fine and applied arts, journalism.

Other fields, or groups of fields, may be approved by the undergraduate adviser.

**Departmental Distinction.** To be considered for departmental distinction, a student must maintain a 4.5 grade-point average and fulfill special additional requirements. See the department's honors adviser.

## SPEECH AND HEARING SCIENCE<sup>1</sup>

**Speech and Hearing Courses.** 30 hours, as specified below.

**Supporting Course Work.** 24 hours, chosen in consultation with an adviser.

This field provides a broad background in the biological, behavioral, linguistic, and social foundations of human communication. A student who has a particular interest in the general area of speech, language, or hearing may use this major primarily as a liberal arts background with the intent of pursuing graduate education in speech and hearing or in a related field.

### REQUIREMENTS

- Thirty hours of speech and hearing science, to include SPSPS 102, 201, 375, 376, 378, 383, 385, and 390
- Twenty-four hours of courses selected with departmental approval in any of the following departments: computer science, electrical engineering, linguistics, mathematics, physics, physiology, psychology, and speech communication

**NOTE:** A student may use up to six hours of SPSPS 290 as free electives toward the bachelor's degree.

**Departmental Distinction.** To graduate with distinction, a student must have minimum grade-point averages of 4.25 overall ( $A = 5.0$ ) and 4.5 in speech and hearing courses, and must register in the honors course (SPSPS 291) for 4 hours of credit. Additional information for graduation with distinction is available in the department office.

- This program is administered through the College of Applied Life Studies.

## SPEECH COMMUNICATION

**Speech Communication Courses.** 29 to 36 hours.

**Supporting Course Work.** 12 to 19 hours approved by an adviser, for a total of 48 hours in the major.

Speech communication embraces various studies of the use of language and speech for social purposes. The field serves many students as preprofessional education and others as the core of a liberal education. The curriculum reflects concern for the theory, practice, and criticism of communication in varied settings: interpersonal interaction, public discourse, group and organizational communication, and some literary and artistic forms. The Department of Speech Communication offers two options within its major: rhetorical and communication theory, and interpretation. The major consists of a minimum of 48 hours distributed as follows:

- A minimum of 29 hours in courses in speech communication, at least 15 of which must be at the 200 level or above, including a minimum of 12 hours in courses that carry advanced hours credit (almost all 300-level courses and specifically designated 200-level courses). See the *LAS Student Handbook* for a current list of advanced courses.
- A minimum of 12 hours in supporting courses chosen from departments or programs whose offerings are appropriate to the option selected. A student must obtain the approval of a speech communication adviser for the selected program of courses.
- A minimum of 7 additional hours in speech communication or supporting courses selected in consultation with a speech communication adviser.

### OPTIONS

#### Interpretation Option

- The student must take SPSCOM 141, 142, 161, 255, 342, 344, and 345.
- The student must elect at least 18 hours in literature courses approved by a speech communication adviser. These should include a course in Shakespeare, a course in American literature, a

course in English literature before 1800, and a course in English literature from 1800 to the present.

- Additional hours in speech communication and in supporting fields will be chosen in consultation with, and with the approval of, a speech communication adviser.

### Rhetorical and Communication Theory Option

This option provides a broad acquaintance with theory, practice, and criticism in rhetorical and communication theory.

The student must take at least one speech communication course from each of the following areas:

- Interpersonal and small group communication: SPCOM 113, 211, 230, 313, 332, 335
- Persuasion and social influence: SPCOM 213, 221, 223, 320, 321, 324
- Rhetorical theory: SPCOM 102, 210, 315, 317, 322
- Criticism of public discourse: SPCOM 177, 252, 253, 254, 323, 350, 353

Additional hours in speech communication and in supporting fields will be chosen in consultation with, and with the approval of, a departmental adviser. The resulting program may be distributed among the four areas listed above, or it may be a specialized program organized around a theme or topic including other speech communication course offerings.

**Departmental Distinction.** Superior students are encouraged to consult the departmental honors adviser about requirements and opportunities for participation in the departmental honors program.

## STATISTICS

**Statistics and Mathematics Courses.** 10 to 17 hours of calculus and elementary course work, and 18 to 24 hours of 300-level courses.

**Supporting Course Work.** 12 hours of approved courses in an area of statistical application.

Statistics is the science of modeling, summarizing, and analyzing data, and of using mathematics and computing tools to make predictions and decisions in the face of uncertainty. Statistical ideas are applicable in any area involving quantitative measurement and in almost every area of scholarly pursuit. The major is designed to provide students with an understanding of the concepts of statistical inference and a familiarity with the methods of applied statistical analysis. It can be used as preparation for a career in business, industry, or government, or as a preparation for further graduate study in statistics or in a related area.

### REQUIREMENTS

- Calculus through MATH 242 or 245 or equivalent.
- MATH 315 or 318.
- MATH 247 or 280 (advanced calculus).
- STAT 310 and 311 (statistical inference 1-11).
- STAT 324 or 325 (linear models).
- Three courses chosen from the following lists, at least two of which must be from list a:
  - Other statistics courses: STAT 326, 327, 328, 329, 330; or MATH 366; or the course in requirement 5 above not used for that requirement.
  - Preparation for post graduate study: MATH 346 or 348, and MATH 344 or 347.
- A working knowledge of a programming language (satisfied, for instance, by C S 101, 105, or 121).
- Supporting course work: At least 12 hours in a secondary subject in which statistical methods are applicable. No more than 6 of these hours may be in courses emphasizing statistical methods. Course selection must have adviser approval.

**Departmental Distinction.** Distinction will be awarded on the basis of the selection of 300-level courses in statistics and the grade-point average in required courses.

- It is strongly recommended that STAT 100 be taken during the freshman or sophomore year as an early introduction to statistical ideas. Highly prepared students who are able to take STAT 310 before the junior year should not take STAT 100.

## STATISTICS AND COMPUTER SCIENCE

This major is sponsored jointly by the Departments of Statistics and Computer Science. It is designed to prepare students for professional

or graduate work in statistics and computer science. Specific requirements are as follows:

### HOURS

13-14	MATHEMATICS REQUIREMENTS:
10-11	MATH 120, 130, 242; or MATH 135 and 245 (calculus)
3	MATH 247, 341, 344, or 347 (analysis)
22	COMPUTER SCIENCE REQUIREMENTS:
8	C S 125, 223, 225—Software core courses
3	C S 257—Numerical Methods
5	C S 173 and 273—Theory of Computation
3	C S 231—Computer Architecture, I
3	C S 232—Computer Architecture, II
10	STATISTICS REQUIREMENTS:
4	STAT 310—Introduction to Mathematical Statistics and Probability, I
3	STAT 311—Introduction to Mathematical Statistics and Probability, II
3	STAT 328—Statistical Computing

**Other Specified Electives.** At least six statistics, computer science, and mathematics courses, with at least one chosen from each of the following groups:

- MATH 315, 318—Matrices and linear algebra
- C S 373, 375—Foundations
- C S 323, 325—Software
- C S 311, 318, 346—Application software
- STAT 320, 324, 325—Applied statistics
- Either STAT 100 taken during the first 60 hours of course work (to provide the student with an early introduction to statistical concepts), or an additional 300-level statistics course, with STAT 326 recommended (this latter option is designed for students who wish to take STAT 310 before the junior year).

**Departmental Distinction.** To graduate with distinction, a student must have a specified grade-point average in the 300-level statistics, computer science, and mathematics courses listed above. A grade-point average of 4.25 is required for distinction, 4.5 for high distinction, and 4.75 for highest distinction.

## MINORS AND INTERDISCIPLINARY MINORS

The following minors may be used only in conjunction with a major in the sciences and letters curriculum. See page 127 for further explanations of LAS minors and interdisciplinary minors.

Additional minors not outlined below are pending final approval and still other are being proposed this academic year. An updated list of minors is available in the LAS Student Office.

### INTERDISCIPLINARY MINOR IN AFRICAN STUDIES

The Center for African Studies offers an interdisciplinary minor as a complement to the major for any student enrolled in the sciences and letters curriculum in the College of Liberal Arts and Sciences.

The dean of the College of Liberal Arts and Sciences will verify that the student has completed the program on the recommendation of the director of the Center for African Studies and on completion of the following requirements:

- Study of, or demonstration of competence in, a foreign language of pertinence to African studies to the level of the LAS foreign language requirement. Languages such as Arabic, Bambara, French, Zulu, Lingala, Portuguese, Swahili, and Wolof are pertinent. A student who chooses to satisfy this requirement with an indigenous African language (e.g., Arabic, Bambara, Lingala, Swahili, Wolof, or Zulu) may count the second year of language study toward satisfaction of 6 of the total hours required for the interdisciplinary minor.
- Twenty-one hours of courses drawn from the African studies core courses. These courses normally contain a minimum of 50 percent African content and are defined according to a list maintained and regularly updated by the Center for African Studies.
  - One of these courses must be AFRST 222—Introduction to Modern Africa.
  - Students may use no more than 6 hours of second year language study for the 21 hours.
  - Students must take at least 9 of the 21 hours in courses approved for advanced hours (300-level or approved 200-level courses).
  - Students must take courses from at least two separate departments in addition to those of the center.



3. A minimum grade-point average of 3.75 in African studies courses is required for completion of the minor.

The 21 hours selected by students for the African studies minor should form a coherent program of study. This program must be approved by the Center for African Studies.

### INTERDISCIPLINARY MINOR IN AFRO-AMERICAN STUDIES

The Afro-American Studies and Research Program offers an interdisciplinary minor as a complement to the major for any student enrolled in the sciences and letters curriculum in the College of Liberal Arts and Sciences. This minor represents a coherent vehicle for students who wish to structure and formalize their study of Afro-American subjects as part of their liberal education. The minor provides a strong intellectual complement to majors in various humanities and social sciences disciplines as well as to majors in preprofessional programs including law, medicine, social work, education, business, and urban planning.

On the recommendation of the director of Afro-American Studies, the dean of the College of Liberal Arts and Sciences will verify in writing that the student has completed the minor. The requirements are listed below.

#### REQUIREMENTS

1. Twenty-one hours of courses drawn from courses in the Afro-American studies core, which consists of program courses and approved courses from other departments.
  - a. All students must take the three required core courses: AFRO 100, 224, and 244.
  - b. A student may use no more than one course in addition to AFRO 100 from the 100-level course offerings.
  - c. Students must complete 3 to 6 hours of approved 200-level courses.
  - d. Students must complete at least 6 hours of approved 300-level courses.
2. A student's plan of courses for the minor must be approved by the Afro-American Studies and Research Program.
3. A minimum grade-point average of 3.75 ( $A = 5.0$ ) is required for completion of courses taken in this program.

### MINOR IN ANTHROPOLOGY

The minor in anthropology may be tailored to each student's individual needs, thus accommodating students with majors as diverse as premedicine, prelaw, geography, and art history. The 18 hours in anthropology must include at least two of the following courses: ANTH 220, 230, 240, and 270. At least 6 hours must be at the advanced level; this may not include more than a single offering of ANTH 398. Six additional hours at any level are also required to complete the 18 hours.

### MINOR IN CHEMISTRY

Twenty hours in Chemistry with the following restrictions:

1. CHEM 100 may not count in the 20 hours.
2. No more than 10 hours may be counted from Chemistry courses numbered 110 or lower.
3. Biochemistry courses may be included in the 20 hours.
4. At least 6 hours shall be selected from Chemistry courses officially designated as "advanced" in the *LAS Student Handbook*.

### MINOR IN CINEMA STUDIES

Cinema studies at the University of Illinois is an interdisciplinary curriculum with courses offered in a variety of departments. The minor is structured to provide students with certain core courses in the discipline while also allowing the freedom to explore various approaches to the subject presented by different departments.

Students should consult the Unit for Cinema Studies (2111 Foreign Languages Building, 333-3356) for more information on the minor and for schedules of cinema studies courses offered each semester.

#### REQUIREMENTS

1. ENGL 104 (Introduction to Film) or ENGL 273 (Intermediate Film Studies: Directors, Genres, Themes)
2. CINE 261 (Survey of World Cinema, I: The Beginnings through the Coming of Sound) and CINE 262 (Survey of World Cinema, II: The Thirties to the Present)

3. Two foreign language cinema studies courses. (These include courses on French, German, Italian, Japanese, Russian/East European, and Swedish cinema. Please note that all cinema studies courses are taught in English.)
4. Two additional cinema studies courses.  
At least 6 hours of 300-level courses must be included in the above.

### MINORS IN CLASSICS

The Department of the Classics offers four minors.

#### MINOR IN CLASSICAL ARCHAEOLOGY

Eighteen hours of classical archaeology courses (CLCIV 131, 132, 217, 218, 231, 232, 318, 332, 343, 344, 391), including at least 6 hours at the advanced level.

#### MINOR IN CLASSICAL CIVILIZATION

Eighteen hours of classical civilization courses, including not more than 6 hours at the 100 level, and at least 6 hours at the advanced level.

#### MINOR IN GREEK

Eighteen hours of Greek courses, excluding GRK 101, including at least 6 hours at the advanced level.

#### MINOR IN LATIN

Eighteen hours of Latin courses, excluding LAT 101, 102, 105, including at least 6 hours at the advanced level.

### MINOR IN COMPARATIVE LITERATURE

Students must choose from either the Western or the non-Western track.

**Western Track.** CLIT 141 and 142; 201 and 202; two courses in Western literatures, studied from comparative perspectives and chosen from the following courses: CLIT 351, 361, 371, and 396 and other advanced courses approved by the undergraduate comparative literature adviser.

**Non-Western Track.** C LIT 189 and 190; 201 and 202; two courses in non-Western literatures, studied from comparative perspectives and chosen from the following courses: C LIT 341, 351, 361, 371, and 396 and other advanced courses approved by the undergraduate comparative literature adviser.

### MINOR IN COMPUTER SCIENCE

HOURS	REQUIREMENTS
8	C S 125, 223, and 225—Software core courses
2	C S 173—Discrete Mathematics
3	At least one additional course chosen from: C S 231—Computer Architecture, I (logic design) C S 232—Computer Architecture, II (machine level programming) C S 257—Numerical Methods C S 273—Introduction to Theory of Computation C S 281—Introduction to Computer Hardware C S 348—Introduction to Artificial Intelligence
3	At least one 300-level course, chosen from: C S 323, 325—Software C S 331, 333—Architecture C S 373, 375—Theory C S 355, 358, 359—Numerical analysis C S 335, 363, 389—Hardware C S 341, 342, 346, 347—Artificial intelligence
3	Another 200- or 300-level course, chosen either from the lists above, or from these additional courses: C S 311, 318, 326, 327, 328—Software C S 338, 362—Architecture C S 339, 384—Hardware
19	Total

At least two courses (6 hours) of this minor must meet the LAS Advanced Hours requirement.

### MINOR IN EAST ASIAN LANGUAGES AND CULTURES

The minor in East Asian Languages and Cultures consists of Chinese or Japanese or Korean 204 and a minimum of 15 hours of nonlanguage courses, including EALC/HIST 170 and 12 additional hours of East Asia-related courses. At least 6 of the 12 additional hours must be at

the 30 level. Completion of Chinese of Japanese of Korean 204 satisfies the LAS foreign language requirement.

### MINOR IN ENGLISH

Twenty-one hours of course work, distributed as follows:

1. ENGL 101 (Introduction to Poetry), and no more than one other 100-level literature course. It is strongly recommended that 101 be taken prior to any advanced courses in the minor.
2. One 200-level course in British literature before 1800 (ENGL 202, 204, 206, 209), or ENGL 118 (Introduction to Shakespeare).<sup>1</sup>
3. One 200-level course in British or American literature after 1800 (ENGL 210, 240, 241, 242, 243, 244, 247, 249, 256, 259 or 260).<sup>1</sup>
4. At least 6 hours (two courses) of 300-level work.

Six hours of advanced rhetoric courses (numbered 140 or above) may be included in the above minor.

1. With the written permission of the English honors adviser, English honors seminars may be substituted for these listed courses, when such seminars are available, open to nonmajors, and appropriate.

### MINOR IN ENGLISH AS A SECOND LANGUAGE

For students in the sciences and letters curriculum wishing to prepare to teach English overseas or in any context other than the public schools.

HOURS	REQUIREMENTS
3	E I L LING 388—English Phonology and Morphology for ESL Teachers
3	E I L LING 389—Theoretical Foundations of Second Language Acquisition
3	LING 200—Introduction to Language Science
3	LING 225—Elements of Psycholinguistics
3	E I L 302—Descriptive English Grammar for ESL Teachers
6	Two courses from those in groups A, B, or C. No more than one course may be taken from each group. Group A: Culture and Language: LING/E I L 350—Introduction to Sociolinguistics (3 hours) or E I L 356—Impact of Cultural Differences in TESL (3 hours). Group B: Supervised Practicum Experience: E I L 311—ESL Methods and Materials (3 hours) Group C: Language Pedagogy: E I L 367—Communicative Approaches to Second and Foreign Language Teaching (3 hours) or E I L 360—Principles of Language Testing (3 hours).
21	Total

### MINOR IN FRENCH

HOURS	REQUIREMENTS
	Twenty-one hours of course work distributed as follows:
6	French 205-206 (Oral French I, II)
6	French 209-210 (Introduction to French Literature I, II)
3	French 207 (Grammar and Composition)
3	French 335 or 336 (French civilization)
3	One other French course officially designated as advanced in the LAS Student Handbook

### MINOR IN GEOLOGY

The geology minor is designed for students who desire a significant background in geology to support study and practice of their major field. Selection of courses at the 300-level will depend on the major and interests of the student.

HOURS	REQUIREMENTS
8	GEOL 107 <sup>1</sup> , 108 <sup>1</sup>
10	At least 10 hours in 300-level courses taught within the Department of Geology
18	Minimum total hours in the minor

1. Students who decide to follow the geology minor after first taking GEOL 101 or 111 or 100 and 110 should enroll in GEOL 108; students who decide to follow the geology minor after first taking GEOL 100 (without 110), 104, 105, or 143 should enroll in GEOL 107. The combination of GEOL 101 (or 111 or 100/110) and 102 will be accepted as a substitute for GEOL 107 and 108, but students should be aware these courses are not intended for science majors.

### MINOR IN GERMAN

The minor in German offers students a background in the language through the advanced undergraduate level; an introduction to the study of German literary classics; and a knowledge of the history of German culture.

#### REQUIREMENTS

Nineteen hours of course work beyond GER 104, including the following courses: GER 211 (Conversation and Writing), GER 212 (Conversation and Writing), GER 231 (Introduction to German Literature I), GER 232 (Introduction to German Literature II), GER 301 (Advanced Conversation, Composition, and Syntax), GER 326 (History of German Civilization).

### MINOR IN GREEK

The minor in Greek is sponsored by the Department of the Classics. See page 148.

### MINOR IN HISTORY

A history minor is designed for students who desire to understand the historical background of their major field and to provide an evolutionary or developmental perspective on the study and practice of their major field. Selection of courses will depend on the major and on the interests of the student.

#### REQUIREMENTS

1. A minimum of 20 hours is required.
2. A maximum of 8 hours of 100-level survey courses is acceptable.
3. A minimum of 6 hours at the 300-level taken on the Urbana-Champaign campus is required.

HIST 198 (Freshman Seminar) may be counted as a 200-level course. HIST 290 (Individual Study) may be counted as a 300-level course, but a student must have a 4.5 GPA and the consent of an instructor to enroll. HIST 298 (Colloquium in History) may be counted as a 300-level course. A maximum of 6 hours of study-abroad credit will be accepted, but only at the 200 level.

All of the 200- and 300-level work must be completed at a four-year institution.

### MINOR IN ITALIAN

The minor in Italian is sponsored by the Department of Spanish, Italian, and Portuguese. See page 150.

### MINOR IN LATIN

The minor in Latin is sponsored by the Department of the Classics. See page 148.

### INTERDISCIPLINARY MINOR IN LATIN AMERICAN STUDIES

The Center for Latin American and Caribbean Studies offers an interdisciplinary minor as a complement to the regular major for any student enrolled in a major other than Latin American studies in the sciences and letters curriculum in the College of Liberal Arts and Sciences.

The dean of the College of Liberal Arts and Sciences will verify that the student has completed the program on the recommendation of the director of the Center for Latin American and Caribbean Studies and on completion of the following requirements:

1. Two courses (5 or 6 semester hours) in a Latin American language (Spanish, Portuguese, or Quechua) beyond the level specified by the LAS language requirement, or the equivalent as demonstrated by special examination. At the end of their language study, all students are urged to take an oral proficiency test based on ACTFL guidelines.
2. Fifteen semester hours of courses drawn from the Latin American studies curriculum. The curriculum normally consists of courses with 50 percent or more Latin American content and is defined according to a list maintained and regularly updated by the Center for Latin American and Caribbean Studies.
  - a. One of these courses must be LA ST 170—Introduction to Latin America.
  - b. No more than 6 hours may be chosen from a single department.

- c. Six of the hours must be chosen from the 300-level course offerings.
  - d. Up to 6 hours of literature, but not language, courses may be applied toward the total of 15 hours.
- The 21 hours selected by students for the interdisciplinary minor in Latin American studies should form a coherent program of study. This program must be approved by the adviser of the Center for Latin American and Caribbean Studies.

### MINOR IN MATHEMATICS

HOURS	REQUIREMENTS
3-11	Calculus through MATH 242 or 245
12	Four courses chosen from at least three of the following lists: Algebra: MATH 315, 317, 318, 353 Discrete Mathematics: MATH 312, 313, 314, 383 Analysis: MATH 247, 280, 285, 341, 342, 344, 346, 347, 348, 384, 385 Geometry: MATH 302, 303, 323, 332, 381 Probability and Statistics: MATH 263, MATH 361/STAT 351, MATH 363/STAT 310, MATH 364/STAT 311, MATH 366/STAT 356

### MINOR IN PORTUGUESE

The minor in Portuguese is sponsored by the Department of Spanish, Italian and Portuguese. See page 150.

### MINOR IN RUSSIAN AND EAST EUROPEAN STUDIES

The minor in Russian and East European studies permits students to combine language study with multidisciplinary study of the Soviet and East European region.

#### REQUIREMENTS

- Completion of the 103-104 sequence in Russian; or the completion of another East European language through the second year of that language; or equivalent.
- Completion of 15 hours in courses on Russia or Eastern Europe from at least three different academic units. (Literature courses are acceptable for this requirement; language courses are not.) No more than 6 hours may be counted from any one unit; 6 hours must be at the 300 level or in courses designated as advanced in the *LAS Student Handbook*, and no more than 9 hours may be taken at the 100 level. Courses must be approved by the Russian and East European studies adviser.

### MINOR IN RUSSIAN LANGUAGE AND LITERATURE

A minor in Russian language and literature may be useful and enriching for students in many disciplines, from economics and political science through comparative literature and theatre to engineering and mathematics. The 18- to 20-hour program listed below provides considerable flexibility within a general structure. Additional information may be obtained from the undergraduate adviser in the Department of Slavic Languages and Literatures, 3092 Foreign Languages Building.

HOURS	REQUIREMENTS
3	Introduction to Russian literature and culture: RUSS 113, 114, 115, or 116
6-8	Second-year Russian: RUSS 103-104 or equivalent
3	Third-year Russian: RUSS 200 (reading), 211 (conversation), or 213 (composition)
3	Nineteenth-century Russian literature: a 300- (or advanced 200-level) course
3	Twentieth-century Russian literature: a 300- (or advanced 200-level) course
18-20	Total required hours

Of the above courses, RUSS 113 through 116 have no prerequisites. RUSS 103 assumes two high-school years, or two college semesters, of elementary Russian (RUSS 101-102 or 111). The specified 200- and 300-level courses have prerequisites contained within the above list of courses acceptable for the minor.

### MINOR IN SOCIOLOGY

A minor in sociology requires that students learn the basic theoretical and methodological approaches in sociology. Students must also learn about the substance of sociology in some depth and are thus

required to take at least two sociology courses at an advanced level and total of at least 18 hours of sociology courses. The course work must include:

- SOC 100 (Introduction to Sociology)
- SOC 180 (Social Thought) or SOC 200 (Introduction to Sociological Theory)
- SOC 185 (Introduction to Social Statistics) or equivalent introductory statistics course
- At least two 300-level courses.

### MINORS IN SPANISH, ITALIAN, AND PORTUGUESE

The Department of Spanish, Italian, and Portuguese offers the following minors:

#### MINOR IN ITALIAN

A minimum of 19 hours of course work in Italian language and literature beyond ITAL 103, including

- ITAL 104, ITAL 208 (Practical Review of Italian), ITAL 220 and/or 222 (Conversation, I and II).
- At least 6 hours of electives at the advanced level.

#### MINOR IN PORTUGUESE

A minimum of 19 hours of course work beyond PORT 103 distributed as follows:

HOURS	REQUIREMENTS
4	PORT 104—Intermediate Portuguese
3	PORT 200—Advanced Grammar
3	PORT 210 or 212—Composition and Conversation, I or II
3	PORT 220—Readings in Portuguese
6	Two of the following: PORT 304—Luso Brazilian Culture PORT 306—Brazilian Film PORT 310—Studies in Brazilian Literature PORT 320—Studies in Portuguese Literature
19	Total

### MINOR IN SPANISH<sup>1,2</sup>

A minimum of 18 hours of course work in Spanish language and literature beyond SPAN 104, distributed as follows:

- SPAN 210 (Practical Review of Spanish), SPAN 214 (Spanish Composition), SPAN 220 (Oral Spanish).
- At least 9 hours of electives from among courses at the 200 level.

- SPAN 200 (Readings in Hispanic Literature and Culture) or equivalent advanced placement credit is a prerequisite for most 200-level Spanish courses.
- The following courses may not be included in the minor: SPAN 242, 244, 270, 274, 276, and 279.

### INTERDISCIPLINARY MINOR IN WOMEN'S STUDIES

The Women's Studies Program offers an interdisciplinary minor to any student enrolled in a major in the sciences and letters curriculum in the College of Liberal Arts and Sciences. On the recommendation of the director of the Women's Studies Program, the dean of the College of Liberal Arts and Sciences will verify in writing that the student has satisfied the requirements for this minor upon the completion of the following:

#### REQUIREMENTS

- Twenty-four hours of women's studies courses, including:
  - W S 111—Introduction to Women's Studies in the Humanities
  - W S 112—Introduction to Women's Studies in the Social Sciences
  - Eighteen hours in other courses either offered by or cross-listed with the Women's Studies Program, which must include 9 hours in advanced courses (i.e., 300-level or designated 200-level). A list of acceptable courses may be obtained in the Women's Studies Office.
- Additional requirements:
  - Students must officially declare their minor by registering with the Women's Studies adviser.
  - The program of study must be approved by the Women's Studies Program adviser to ensure its coherence.
  - A minimum grade-point average of 3.75 is required for completion of the minor.



## MINOR PENDING FINAL APPROVAL

The following minor has been approved by the College of Liberal Arts and Sciences and is pending final approval at the time of publication:

### Religious studies

A current list of requirements for minors that have final approval is available in the LAS Student Office (270 Lincoln Hall).

## SPECIALIZED CURRICULA

The Campus Senate, the faculty General Education Board, and the colleges and departments are working to implement enhanced general education requirements. Some changes in requirements took effect in fall 1991. Further changes in requirements are expected to take effect in fall 1993. Thus, new students should confirm their general education requirements by consulting college and departmental offices, handbooks, or advisers.

## CURRICULUM IN BIOCHEMISTRY

### For the Degree of Bachelor of Science in Biochemistry

A total of at least 120 semester hours of course work as outlined below, with a minimum 3.0 (A = 5.0) academic grade-point average required for graduation. In addition, in order to graduate, students must attain a 3.0 average in the chemistry, biochemistry, mathematics, physics, and advanced electives in life science courses specified in this curriculum. All proposals for substitutions must be approved by the faculty adviser. This curriculum is intended for those students who desire a rigorous education in chemistry, biochemistry, and the life sciences, but whose career objectives require sufficient flexibility to obtain proficiency in other areas as well.

The departmental distinction program is intended for the exceptional student who intends to enter graduate school or a highly technical academic, governmental, or industrial research laboratory after completion of undergraduate study.

For information regarding the cooperative education program in the School of Chemical Sciences, see the chemistry major in the sciences and letters curriculum on page 129.

HOURS	REQUIREMENTS <sup>1,2</sup>
9-11	General chemistry: 107, 108, 109, 110 or 101, 102, 223 and 224
7-8	Organic chemistry: 236, 237, 336 or 231, 234, 331
7-8	Physical chemistry: 340, 346 or 342, 344
10-11	Biochemistry: 352, 353, 355
10-11	Mathematics: 135, 245 or 120, 130, 242; or 121, 131, 242
10-12	Physics: 101, 102 or 106, 107, 108
6	Advanced electives in life sciences (300-level)
12	General Education: Humanities (6 hours), social sciences (6 hours)
0-16	Foreign Language (four semesters in college or four years in high school)
7-9	Composition I and II writing requirement
	Electives (not including any credit in satisfaction of the above requirements)
120	Total minimum hours

**Departmental Distinction.** In addition to meeting the above requirements, a student seeking distinction must satisfy the following:

1. Complete 10 hours of BIOCH 292.
2. Earn at least a 4.0 (A = 5.0) grade-point average.
3. Present a senior thesis for deposit in the College of Liberal Arts and Sciences.

1. Transfer credit must be approved by an adviser in biochemistry in order to be used to satisfy degree requirements.  
2. A more detailed description of the requirements is listed in the *Biochemistry Curriculum Brochure*, available in room 401 of Roger Adams Laboratory.

## CURRICULUM IN CHEMICAL ENGINEERING

### For the Degree of Bachelor of Science in Chemical Engineering

The chemical engineering curriculum is arranged in a flexible manner to permit students to use their elective hours and to substitute courses to arrange programs incorporating various specific areas of chemical engineering or interdisciplinary areas. For example, sequences can be set up in conjunction with the student's adviser to emphasize environmental engineering, bioengineering, computer science, or one of

many other options. It will be advantageous to the student to plan course sequences with an adviser as early in the student's academic career as possible.

Students entering without adequate preparation in mathematics and chemistry may find it difficult to complete the chemical engineering curriculum in four years. A typical program, including all required courses and electives, is shown below. Individual students may vary the order in which the various courses are taken to suit their individual needs. However, care must be exercised in scheduling to ensure that necessary course prerequisites are met.

A total of 129 hours is required for graduation, as shown below.

Students in the curriculum of chemical engineering must maintain a 3.5 general average, excluding military training, in order to be accepted by the department as juniors and seniors.

For information regarding the cooperative education program in the School of Chemical Sciences, see the chemistry major in the science and letters curriculum on page 129.

**Departmental Distinction.** A student is recommended for departmental distinction on the basis of grade-point average and work presented in CH E 292—Senior Thesis or CH E 390 Projects.

### First year

HOURS	FIRST SEMESTER
3	CHEM 107 <sup>1</sup> —Accelerated Chemistry, I
1	CHEM 109—Accelerated Chemistry Laboratory, I
5	MATH 120—Calculus and Analytic Geometry, I
4	RHET 105 or 108—Composition I writing requirement
3	Elective <sup>2,3</sup>
16	Total
HOURS	SECOND SEMESTER
3	CHEM 108—Accelerated Chemistry, II
2	CHEM 110—Accelerated Chemistry Laboratory, II
3	MATH 130—Calculus and Analytic Geometry, II
2	C S 101—Introduction to Computing for Engineering and Physical Science
4	PHYS 106—General Physics (Mechanics)
1	CH E 161—The Chemical Engineering Profession
15	Total

### Second year

HOURS	FIRST SEMESTER
3	CH E 261—Introduction to Chemical Engineering
1	C S 110F—Programming Laboratory (Fortran)
4	CHEM 236—Fundamental Organic Chemistry, I
2	CHEM 237—Structure and Synthesis
3	MATH 242—Calculus of Several Variables
4	PHYS 107—General Physics (Heat, Electricity, and Magnetism)
17	Total
HOURS	SECOND SEMESTER
3	CH E 370—Chemical Engineering Thermodynamics
3	CHEM 336—Fundamental Organic Chemistry, II
2	MATH 225—Introductory Matrix Theory
4	PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	MATH 285—Differential Equations and Orthogonal Functions
15	Total

### Third year

HOURS	FIRST SEMESTER
4	CH E 371—Fluid Mechanics and Heat Transfer
4	CHEM 342—Physical Chemistry, I
2	CHEM 319—Instrumental Characterization of Chemical Systems Laboratory
2	CHEM 321—Instrumental Characterization of Chemical Systems
3	Electives <sup>2,4</sup>
15	Total
HOURS	SECOND SEMESTER
4	CH E 373—Mass Transfer Operations
4	CHEM 344—Physical Chemistry, II
9	Electives <sup>2,4</sup>
17	Total

### Fourth year

HOURS	FIRST SEMESTER
3	CH E 389—Chemical Process Control and Dynamics
4	CH E 374—Chemical Engineering Laboratory

2	CH E 381—Chemical Rate Processes and Reactor Design
7	Electives <sup>1,6</sup>
16	Total
<b>HOURS</b>	<b>SECOND SEMESTER</b>
2	CH E 390—Individual Chemical Engineering Projects
4	CH E 377—Synthesis and Design of Chemical Systems
12	Electives <sup>1,6</sup>
18	Total

1. Students who do not place into CHEM 107, or who do not satisfy the mathematics prerequisite for CHEM 107, may substitute the sequence CHEM 101, 102, 223, and 224 for CHEM 107, 108, 109, and 110.
2. A total of 16 hours of approved social sciences and humanities electives is required. This must include a sequence of at least 6 hours in social sciences and a sequence of at least 6 hours in humanities. A sequence is usually interpreted to mean any combination of approved courses taught by the same department. Students should consult their departmental advisers for a current list of courses that may be used to satisfy this requirement.
3. One year of college credit in one foreign language is required. Two units of high school credit in one foreign language are equivalent to one year of college credit.
4. Students may substitute MATH 315 for MATH 225. Students electing to do so should be certain that they have the prerequisites for MATH 315.
5. BIOCH 350 may be substituted for CHEM 336.
6. Students must take at least 18 hours of technical electives in fields such as chemical engineering science. These must include at least 5 hours of chemical engineering electives plus at least 3 additional hours of 300-level electives (or CH E 292). Students should consult their departmental advisers for a current list of courses that may be used to satisfy this requirement.

## CURRICULUM IN CHEMISTRY

### For the Degree of Bachelor of Science in Chemistry

The professional curriculum in chemistry affords more thorough technical training than is required of students who make chemistry their major in the sciences and letters curriculum described on page 129.

For the degree of bachelor of science in chemistry, completion of each of the seven categories (A through G) listed below is required for graduation. Because different students may satisfy the various categories in different ways, the total number of credit hours accumulated for graduation varies. Although a minimum of 120 hours is required for graduation, the total is usually between 128 and 134 hours. Graduation requires grade-point averages of at least 3.0 ( $A = 5.0$ ) overall and 3.0 in courses used to satisfy categories A through D. The Department of Chemistry will supply, upon request, a brochure showing recommended semester-by-semester programs for the completion of the curriculum.

Each graduate of the professional curriculum in chemistry is certified to the American Chemical Society as having met its specifications for professional education in chemistry.

For information regarding the cooperative education program in the School of Chemical Sciences, see the chemistry major in the science and letters curriculum on page 129.

**Departmental Distinction.** Students qualify for graduation with distinction by exhibiting superior performance in both course work and in senior thesis research. To be eligible, a student must have an overall grade-point average of at least a 4.0 and must complete a senior thesis course.

<b>HOURS</b>	<b>REQUIREMENTS</b>
35 <sup>1</sup>	(A) Core Chemistry Requirement. CHEM 107, 108, 109, 110 <sup>2</sup> , 236, 237, 315, 319, 321, 336, 342, 344, and 345
11	(B) Advanced Chemistry Requirement. At least 11 semester hours of chemistry or biochemistry courses numbered 300 or higher, which must include
	1. One of the following <sup>3</sup> : CHEM 316, 337, or 347.
	2. Additional laboratory work <sup>4</sup> .
	Students who present less than 6 semester hours credit in CHEM 292 for graduation must complete two additional courses chosen from the following list. Students who will present at least 6 semester hours credit in CHEM 292 for graduation are required to complete only one laboratory course from the following list: CHEM 316, 322, 323, 337, 338, 347, 392; BIOCH 355
	3. Additional chemistry/biochemistry courses to complete the 11-hour requirement.
11 <sup>1</sup>	(C) Mathematics Requirement. MATH 120, 130 and 242 or the equivalent
12 <sup>1</sup>	(D) Physics Requirement. PHYS 106, 107, 108, or the equivalent

- 14 (E) Required Technical Electives. Fourteen credit hours including:
1. Required Mathematics. MATH 388, or 225 and 285, or the equivalent.<sup>4</sup>
  2. Strongly recommended: CHEM 292 (maximum of 10 semester hours).
  3. Recommended: basic computer science (especially 101 and 110).
  4. Other technical courses chosen from: chemistry (300 or higher), biochemistry, chemical engineering (200 or higher) Courses in life sciences (BIOL 151 and all courses at 200-level or higher) Mathematics or computer science courses above the basic level
- Other courses in the physical and biological sciences and engineering including CHEM 199 (3 hours maximum). Additional courses in the sciences and engineering can be taken upon the approval of the chair of the chemistry department advising committee. Most approved courses must have a strong technical prerequisite, such as one year of college-level math or science.
- 19-21<sup>1</sup> (F) Nontechnical Requirements.
1. Required foreign language: two high school units or equivalent as needed to satisfy LAS entrance requirement.
  2. Composition I writing requirement (RHET 105, SPCOM 111 and 112, or equivalent).
  3. Composition II writing requirement (course required from Composition II list<sup>5</sup>).
  4. Humanities (at least 6 semester hours) to satisfy the campus general education requirements.
  5. Social science (at least 6 semester hours) to satisfy the campus general education requirements.
- 31 (G) Free Electives. 31 semester hours required. Restrictions: (1) courses preparatory to or used to satisfy the minimum requirements specified in the above requirements may not be included as free electives. (2) No first-year foreign language course (e.g., 101, 102, or equivalent) may be included unless it is a different language than used to satisfy category F-1

1. Hours given are those typical to meet requirements.
2. If necessary, CHEM 101, 102, 223, and 224, or CHEM 107, 108, 109, and 110 may be substituted for CHEM 107, 108, 109, and 110. Warning: CHEM 223 and 224 are offered only in the fall semester.
3. The course taken from B-1 cannot be counted toward B-2.
4. Students contemplating transfer to the chemical engineering curriculum should choose MATH 225 and 285.
5. The course taken to satisfy the Composition II requirement may also be used to partially satisfy one of the categories A-E (if appropriate), or may be used to partially satisfy the category G.

## CURRICULUM IN GEOLOGY AND GEOPHYSICS

### For the Degree of Bachelor of Science in Geology

The curriculum in geology and geophysics is designed for students who plan to pursue graduate study in geology or geophysics or who wish to work professionally in the environmental field upon obtaining the bachelor's degree. It consists of geology, geophysics, and environmental geology options, and offers more training in geology and related science than is required of students who make geology their major in the sciences and letters curriculum described on page 133.

Graduation requires a grade-point average of at least 3.0 ( $A = 5$ ) overall and a 3.0 average in all required science and technical courses (courses for requirements A through E outlined below). A total of 126 semester hours of credit is required for graduation. The Department of Geology will supply upon request a *Guide for Geology Undergraduates* giving more information about the curriculum.

<b>HOURS</b>	<b>GEOLOGY OPTION REQUIREMENTS</b>
45 <sup>1</sup>	(A) Geology. GEOL 107 <sup>2</sup> , 108 <sup>3</sup> , 311, 317 <sup>3</sup> , 320, 332, 336, 340, 352, 360, and 6 additional hours of 300-level geology
8 <sup>1</sup>	(B) Physics. PHYS 106 and 107 (or 101 and 102)
13	(C) Mathematics. MATH 120 and 130; for 121 and 131; 225; and 242
8 <sup>1</sup>	(D) Chemistry. CHEM 101 and 102 (or 107, 108, 109, 110)
3 <sup>1</sup>	(E) Additional technical requirement. At least 3 hours from BIOL 104, BIOL 120, PLIBIO 100, PHYS 108, C S 101 or 110, MATH 280, 285, or 341, STAT 310 or AGRON 340
19-38	(F) Nontechnical requirements.
	1. Foreign Language. See the sciences and letters curriculum requirements on page 126 for ways in which the requirement may be satisfied (0-16 hours).

2. Composition I requirement. RHET 105 or 108 or SPCOM 111 and 112, or equivalent.
3. General education. LAS Area I requirements (see page 126)

4. Composition II requirement (see page 38)
- (G) Free electives.

The free electives cannot include credit taken to satisfy the above requirements or credit in courses taken preparatory to the science and mathematics requirements.

(H) Total hours

#### GEOPHYSICS OPTION REQUIREMENTS

(A) Geology. GEOL 107<sup>1</sup>, 108<sup>2</sup>, 350, and 10 additional hours of 300-level geology

(B) Physics. PHYS 106, 107, 108, and either PHYS 225 OR T A M 154

(C) Mathematics. MATH 120 and 130; (or 121 and 131); 242; 225 (or 315); 280; and 285

(D) Chemistry. CHEM 101 and 102 (or 107, 108, 109, 110)

(E) Additional technical requirements.

1. C S 101 and 110 (or C S 125)

2. At least 3 hours from MATSE 301, PHYS 361 or CHEM 342.

3. At least 6 hours of other 300-level science, math, or engineering courses selected with adviser approval.

(F) Nontechnical requirements.

1. Foreign Language. See the sciences and letters curriculum requirements on page 126 for ways in which the requirement may be satisfied (0-16 hours).

2. Composition I writing requirement. (RHET 105 or 108 or SPCOM 111 and 112, or equivalent.)

3. General education. LAS Area I requirements (see page 126)

4. Composition II requirement (see page 38)

(G) Free electives.

The free electives cannot include credit taken to satisfy the above requirements or credit in courses taken preparatory to the science and mathematics requirements.

(H) Total hours

#### ENVIRONMENTAL GEOLOGY OPTION REQUIREMENTS

(A) Geology. GEOL 107<sup>1</sup>, 108<sup>2</sup>, 301, 351 (or 350), 355, 380

(B) Physics. PHYS 106 and 107 (or 101 and 102)

(C) Mathematics. MATH 120 and 130; (or 121 and 131); and 242

(D) Chemistry. CHEM 101 and 102 (or 107, 108, 109, 110)

(E) Statistics. STAT 310 OR AGRON 340

(F) Additional technical requirement. A minimum of 24 hours from the following courses. At least 9 hours must be geology courses and at least 9 hours must be non-geology courses.

CHEM 231, PHYS 108, C S 101 and 110; or 125; STAT 320, MATH 225, 280, 285 (or 341), MCBIO 100, 101, ENVST 331, 351, T A M 150, 152 or 154, GEOL 311, 317<sup>3</sup>, 332, 336, 340, 360

(G) Nontechnical requirements.

1. Foreign Language. See the sciences and letters curriculum requirements on page 126 for ways in which the requirement may be satisfied (0-16 hours).

2. Composition I writing requirement. (RHET 105 or 108 or SPCOM 111 and 112.)

3. General education. LAS Area I requirements (see page 126)

4. Composition II requirement (see page 38)

(H) Free electives.

The free electives cannot include credit taken to satisfy the above requirements or credit in courses taken preparatory to the science and mathematics requirements.

(I) Total hours

**Departmental Distinction.** Students who maintain a grade-point average of at least 4.5 in all geology courses and 4.0 in all other science and mathematics courses and who complete an acceptable senior thesis, including at least 4 hours credit in GEOL 292 or 293, are recommended for graduation with distinction.

1. Students transferring into the geology option from another science or engineering program may substitute up to 8 hours of 300-level science or engineering credits for 8 hours of 300-level geology courses with departmental approval.

2. Students who decide to follow the curriculum in geology and geophysics after first taking GEOL 101 or 111 or 100 and 110 should enroll in GEOL 108; students who decide to follow the curriculum after first taking GEOL 100 (without 110), 104, 105, or 143 should enroll in GEOL 107. The combination of GEOL 101 and 102 will be accepted as a substitute for GEOL 107 and 108, but students should be aware these courses are not intended for science majors.

3. GEOL 317 is a 6-hour summer field course taught off campus.

4. Hours given are those normally needed to meet the specified requirements.

## CURRICULUM IN PHYSICS

### For the Degree of Bachelor of Science in Physics

The curriculum in physics is recommended for students who plan to enter graduate study in physics or who wish to enter government or industrial laboratory research positions upon attaining the bachelor's degree (see also the curriculum in engineering physics, the LAS major in physics, and the LAS curriculum in the teaching of physics).

A minimum of 126 hours of credit is required for graduation. To be permitted to register in advanced physics or mathematics courses in this curriculum, a student must have a grade-point average of at least 3.5 (A = 5.0) in all subjects excluding military science and also a grade-point average of at least 3.5 in all 100- and 200-level courses in mathematics and physics and a separate grade-point average of at least 3.5 for all 300-level courses in mathematics and physics. The grade-point average for 300-level courses must include at least two physics courses to be considered.

Entering freshmen normally take mathematics, chemistry, a foreign language, and either rhetoric or an elective in the first semester and begin physics in the second semester. Entering freshmen are expected to enroll for the fall term in PHYS 100 (under development as PHYS 199B) where they will meet with other physics majors, learn about the University, and explore physics as a profession. Students with advanced placement in mathematics should start physics in the first semester. Suggested four-year schedules are available in the physics undergraduate records office.

HOURS	REQUIREMENTS
8	CHEM 101 and 102 (CHEM 107, 108, 109, and 110 may be substituted by students who desire a more rigorous sequence)
20	MATH 120, 130, and 242; or equivalent; and MATH 280, 285 and 315 (students with insufficient background may need to take MATH 116 before MATH 120, but will receive no credit toward the degree by doing so)
39 <sup>1</sup>	PHYS 106, 107, 108, 225, 301, 326, 335, 336, 386, 387, and one course chosen from PHYS 303, 343, 361, 365, 371, 382, 389
4-7	RHET 105 or 108 and an approved Composition II course
18	General education (five courses chosen to meet the Area I general education requirements of the science and letters curriculum, and one Area I course from either biological science or behavioral science)
16	Foreign language (A reading knowledge of a modern foreign language; German, French, or Russian is recommended. See the sciences and letters curriculum foreign language requirement on page 126 for ways in which this requirement may be satisfied.)
18-21	Free electives (students are advised to include 6 to 8 hours of physics, 3 to 6 hours of mathematics and at least 3 hours of computer science among their electives)
126	Total

**Departmental Distinction.** Graduation with distinction is awarded to students who complete 8 additional hours of 300- or 400-level physics courses or advanced courses in closely related technical subjects, such as nuclear engineering, solid-state electronics, astrophysics and who have attained cumulative grade-point averages as follows: distinction, 4.2; high distinction, 4.5; highest distinction, 4.8.

1. This statement reflects revisions of the minor pending final approval at time of publication.

## TEACHER EDUCATION CURRICULA

This section contains a description of the requirements for programs leading to the bachelor's degree in teacher education. More detailed information pertaining to specific course requirements for each area of specialization is provided by faculty advisers. It is essential that the student fulfill the specific course requirements of his or her program in order to be eligible for the bachelor's degree in teacher education. Only through regular communication with the teacher education adviser may the student be assured of the appropriateness of his or her semester program. Students are advised that certification requirements may be altered at any time by the State Teacher Certification Board or by the legislature. In such cases, students may be compelled to satisfy the new requirements to qualify for the University's recommendation for certification. Also see Council on Teacher Education on page 43 for information pertinent to all teacher education curricula.



General education requirements of the College of Liberal Arts and Sciences must be fulfilled by students pursuing teacher education curricula in that college. If the requirements of the teaching major satisfy the general education requirements in an area, they will be noted in the curriculum statement. For more information, consult the certification officer (110 Education Building).

## Requirements

### GENERAL EDUCATION

The state of Illinois has mandated completion of certain general education requirements for all students applying for certification on or after July 1, 1992. These state requirements are included in the degree requirements for the LAS teacher education programs as the programs were revised effective August 1991. Students should contact their advisers to be sure of degree and certification requirements in their particular areas.

Students in LAS undergraduate programs leading to secondary and special certification will be expected to complete the following distribution. Courses used to meet the requirement must be from the Council on Teacher Education—approved course list.

#### Distribution

Communication. RHET 105 or 108, SPCOM 101 or a speech performance elective, and one writing intensive course (UIUC) (1 hour credit shown as writing on the transcript). *Alternatively*, students may complete RHET 105 or 108, SPCOM 101 or a speech performance elective, and an additional rhetoric or writing course (equal to or greater than 2 hours), such as RHET 133 or RHET 143; or SPCOM 111-112 and an additional rhetoric or writing course (equal to or greater than 3 hours), such as RHET 133 or RHET 143.

Foreign Language. Students are expected to obtain knowledge of a foreign language equivalent to the completion of the fourth semester of college study in a language. The requirements can be satisfied in the same manner as the language requirement for the sciences and letters curriculum. A complete list of ways to satisfy this requirement is on page 126.

Literature. One course.

American History. One course.

American Government. One course.

One additional course chosen from literature and the arts, historical and philosophical perspectives, or social perspectives.

Non-Western Culture. One course.

Biological Science. One course.\*

Physical Science. One course.\*

One additional course in biological or physical science.\*

Mathematics. One course.

PSYCH 100 or equivalent.

Health and Physical Development. 2 hours.

\*One of the science courses must have a laboratory. A minimum of 9 semester hours of science is required.

In addition, to satisfy state certification requirements, a student must show on his or her transcript at least 15 hours in humanities courses. By the state definition, humanities courses are those in American history, English, history, literature, foreign language (including first and second-year language courses for the foreign language requirement), art, music, theatre, linguistics, and philosophy. While most students in LAS teacher education programs will automatically have at least 15 hours of humanities under the state's definition, students should review their programs to ensure they do so. Any courses used for other requirements (foreign language, distribution requirements above, teaching major, teaching minors, etc.) may be counted in the 15 hours.

## CURRICULUM PREPARATORY TO THE TEACHING OF BIOLOGY

### For the Degree of Bachelor of Science in the Teaching of Biology

While this curriculum is primarily designed for students preparing to teach biology, it also includes the breadth of work in the sciences required for teaching general science. Completion of this curriculum automatically fulfills state certification requirements to teach both

biology and general science. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information. Certification in other teaching areas can also be earned; these are listed on page 45. A minimum of 129 hours is necessary for graduation. In addition, a student must have at least a 3.5 (A = 5.0) cumulative and University of Illinois grade-point average to remain in the curriculum. A student must also maintain at least a 3.0 grade-point average in science and mathematics courses taken at the University of Illinois. Upper-division courses (200- or 300-level) are broadly specified to permit choice. The laboratory requirement exposes the student to the experimental side of biology. Because of the number of courses required, including student teaching, ten semesters are usually needed to complete this curriculum.

**Departmental Distinction.** To graduate with distinction, the student must have at least a 4.5 grade-point average for all work completed, and present evidence of exemplary student teaching.

### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on this page. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & 1101—Introduction to the Teaching of Secondary School Subjects
2	C & 1219—Field Experience in Secondary Teaching
2	C & 1240—Secondary Education in the United States
2	C & 1229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P 5 201—Foundations of American Education
2	C & 1239—Microteaching: Practice in Teaching Techniques
1	SP ED 218—Exceptional Students in Secondary Schools
4-5	C & 1241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
26-30	Total
HOURS	REQUIREMENTS OF THE MAJOR
5	MATHEMATICS: MATH 120—Calculus and Analytic Geometry, I; or MATH 135—Calculus
3-4	STATISTICS: Choose from: EDPSY 390—Elements of Educational Statistics MATH 161—Statistics STAT 100—Statistics BIOL 371—Quantitative Biology, I; or an equivalent statistics course
8-10	CHEMISTRY: Choose from: CHEM 101—General Chemistry, and CHEM 102—General Chemistry (Biological or Physical Version) CHEM 107—Accelerated Chemistry, I; CHEM 108—Accelerated Chemistry, II; and CHEM 109—Accelerated Chemistry Laboratory, I; and CHEM 110—Accelerated Chemistry Laboratory, II
5	CHEM 231—Elementary Organic Chemistry and CHEM 234—Elementary Organic Chemistry Laboratory
10-12	PHYSICS: Choose from: PHYSICS 101—General Physics (Mechanics, Heat, and Sound), and PHYSICS 102—General Physics (Light, Electricity, Magnetism, and Modern Physics) PHYSICS 106—General Physics (Mechanics), PHYSICS 107—General Physics (Heat, Electricity, and Magnetism), and PHYSICS 108—General Physics (Light, Sound, and the Structure of Matter)
15	BIOLOGY: BIOL 120—Genetics, Evolution, and Biodiversity BIOL 121—Ecology and Organismic Biology BIOL 122—Molecular and Cellular Biology
46-51	Total

Additional hours in biology at the 200 or 300 level selected in consultation with the adviser. One course each from five of the areas listed below, including four having laboratory or field experience. Appropriate biology courses to satisfy the various areas may be substituted with the consent of the curriculum adviser. (Note: Course that include both lecture and lab using a single catalog number are indicated with an asterisk; courses that have separate lecture and lab registration are indicated as a combined listing; no indication means that lab is not offered for that course.)

4-8	CELLULAR AND MOLECULAR BIOLOGY: Choose from: PLBIO 338—Plant Molecular Biology, and PLBIO 339— Experimental Techniques in Eukaryotic Molecular Biology MCBIO 316—Genetic Analysis of Microorganisms, and MCBIO 317—Experimental Techniques in Molecular Genetics CSB 300—Cell Biology, I CSB 301—Cell Biology, II
5	ENVIRONMENTAL BIOLOGY: EEF 212—Basic Ecology PLBIO 381—Plant Ecology
3-5	EVOLUTIONARY OR POPULATION BIOLOGY: Choose from: EEF 301—Introduction to Evolutionary Biology EEF 232—Comparative Vertebrate Anatomy PLBIO 304—Evolutionary Survey of the Plant Kingdom BIOL 252—Population Biology
4-5	INVERTEBRATE OR VERTEBRATE BIOLOGY: Choose from: ENT 301—Introduction to Entomology EEE 320—Insect Pathology EEE 340—Natural History of the Vertebrates, and EEE 290—Special Topics
6	MICROBIOLOGY: MCBIO 200—Microbiology, and MCBIO 201— Experimental Microbiology
3	Philosophy or history of science: BIOL 380—Social Issues in Biology BIOL 338—History of Biology PHIL 270—Philosophy of Science
5-7	PHYSIOLOGY: Choose from: PHYSL 341—Comparative Physiology of Animals, and PHYSL 304—Systems and Integrative Physiology Laboratory PHYSL 301—Cell and Membrane Physiology, and PHYSL 303—Cell and Membrane Physiology Laboratory PHYSL 302—Systems and Integrative Physiology, and PHYSL 304—Systems and Integrative Physiology Laboratory PLBIO 330—Plant Physiology, and PLBIO 333—Plant Physiology Laboratory
4-5	PLANT BIOLOGY: Choose from: PLBIO 260—Systematics of Flowering Plants PLBIO 366—Field Botany PLBIOL 304—Evolutionary Survey of the Plant Kingdom
3-4	An additional elective course selected from one of the following areas with the consent of the adviser: an area of scientific interest (e.g., BIOCH 350); undergraduate research in any department of SOLS (departmental 290); computer science or computer-assisted instruction C S 101 or C & I 335
23-35	Total
129-164	Grand total

## CURRICULUM PREPARATORY TO THE TEACHING OF CHEMISTRY

### For the Degree of Bachelor of Science in the Teaching of Chemistry

This curriculum is designed to prepare the student to teach physical science with a major in chemistry and a second teaching field in physics or mathematics. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information. A minimum of 130 hours of credit is required for graduation. In addition, a student must have at least 3.5 (A = 5.0) cumulative and University of Illinois grade-point averages to remain in the curriculum. A student must also maintain at least a 3.0 grade-point average in all attempts at science and mathematics courses taken at the University of Illinois in order to remain in the curriculum.

A student must elect a second teaching field in either mathematics or physics. Regardless of the second teaching field, the curriculum requires the completion of the general physics sequence, including PHYSICS 107, and one year of calculus. Students choosing a second teaching field in mathematics shall complete the teacher education minor in mathematics (see page 162). The second teaching field in physics shall consist of 6 hours of 300-level physics beyond the elementary courses.

**Departmental Distinction.** Students in this curriculum may earn distinction, high distinction, or highest distinction in the teaching of

chemistry. Distinction is awarded on the basis of performance in student teaching and academic achievement.

### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
1	SP ED 218—Exceptional Students in Secondary Schools
4-5	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
26-30	Total

### REQUIREMENTS OF THE MAJOR

The sequence of chemistry courses chosen by the student is somewhat flexible and depends upon previous educational experience as well as other factors. The following two sequences of chemistry courses are recommended. The first is the less rigorous program and might be followed by a student whose high school background is not particularly strong. The second is similar to that followed by students in the chemistry curriculum. An intermediate program involving other courses may be chosen with the consent of the departmental adviser, but, in all cases, the course program should include a course in physical chemistry and two additional courses at the 300 level, and at least 30 hours of chemistry (excluding CHEM 100).

### Suggested Sequences

HOURS	FIRST SEQUENCE
8	General chemistry
3	Elementary quantitative analysis
5	Basic organic chemistry and structure and synthesis (CHEM 236 and 237, or CHEM 231 and 234)
4	Physical chemistry
12	Additional chemistry
32	Total
HOURS	SECOND SEQUENCE
10	General chemistry
6	Organic chemistry
2	CHEM 237—Structures and Synthesis
3	CHEM 315—Inorganic Chemistry
6	Physical chemistry
2	CHEM 319—Instrumental Characterization of Chemical Systems Laboratory
3	Additional chemistry
32	Total

## CURRICULUM PREPARATORY TO THE TEACHING OF COMPUTER SCIENCE

### For the Degree of Bachelor of Science in the Teaching of Computer Science

This program offers training for teaching computer science in the schools. A minimum of 120 hours is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** Students interested in attaining departmental distinction should consult with the honors adviser for program requirements early in the junior year.

### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the mathematics requirement by the requirements of the major. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
1	C & I 219—Field Experience in Secondary Teaching
1	C & I 229—Field Experience in Secondary Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
2	C & I 240—Secondary Education in the United States
3	EDPSY 211—Educational Psychology

3	E P S 201—Foundations of American Education
1	SP ED 218—Exceptional Students in Secondary Schools
5-8	C & I 241—Techniques of Teaching in Secondary Schools
ED PR 242—Educational Practice in Secondary Education	
25-28	Total
<b>HOURS</b>	<b>REQUIREMENTS OF THE MAJOR</b>
8	Software core courses: C S 125, 223, and 225
6	Computer architecture: C S 231 and 232
5	Theory of computation: C S 173 and 273
4	Computer-assisted instruction: C S 317
6	300-level computer science electives
	The 300-level computer science electives should be chosen in consultation with, and must be approved by, the student's adviser.
10-11	Calculus through MATH 242 or 245
39-40	Total

**TEACHER EDUCATION MINOR REQUIREMENT**

A student in this curriculum is required to complete an approved teaching minor. See page 46 for a list of approved minors. Any of those minors is accepted, except the minor in computer science.

1. This statement reflects revisions of the major pending final approval at time of publication.

**CURRICULUM PREPARATORY TO THE TEACHING OF EARTH SCIENCE****For the Degree of Bachelor of Science in the Teaching of Earth Science**

This curriculum is designed for students preparing to teach earth science as their major area of specialization. Students in this curriculum are required to complete a teaching minor in biology, chemistry, general science, mathematics, or physical science. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

Including general and professional education requirements, the courses outlined below total 132 to 151 hours; the minimum number of hours required for graduation is 131. Students must complete 30 hours of advanced courses. In addition, a student must have at least 3.5 (A = 5.0) cumulative and University of Illinois grade-point averages to remain in the curriculum. A student must also maintain at least a 3.0 average in all attempts at science and mathematics courses taken at the University of Illinois in order to remain in the curriculum.

**Departmental Distinction.** See the geology major for requirements.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

<b>HOURS</b>	<b>PROFESSIONAL EDUCATION REQUIREMENTS</b>
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	ED PSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
1	SP ED 218—Exceptional Students in Secondary Schools
4-5	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
26-30	Total
<b>HOURS</b>	<b>REQUIREMENTS OF THE MAJOR</b>
	<b>EARTH SCIENCES:</b>
8	GEOL 107—General Geology, I; and GEOL 108—General Geology, II <sup>1</sup>
4	GEOL 332—Minerals and Mineral Optics
3 or 4	GEOL 320—Introduction to Paleontology or GEOL 340—Sedimentology and Stratigraphy
2	GEOL 115—Regional field study
2	GEOG 102—Weather and Climate
3	ASTR 210—General Astronomy <sup>2</sup>
8	Electives <sup>3</sup>
	<b>SUPPORTING SCIENCES</b> (may fulfill, in part, the teacher education minor):
4	CHEM 101—General chemistry
3-5	Mathematics <sup>4</sup>

5	Principles of biology
5	PHYS 101—General physics
49-52	Total

**TEACHER EDUCATION MINOR REQUIREMENT**

A student in this curriculum is required to complete a teacher education minor in biology, chemistry, general science, mathematics, or physical science. (See page 163.)

- Students who decide to follow the earth science teaching curriculum after first taking GEOL 101 or 111 or 100 and 110 should enroll in GEOL 108; students who decide to follow the curriculum after first taking GEOL 100 (without 110), 104, 105, or 143 should enroll in GEOL 107. The combination of GEOL 101 (or 111 or 100/110) and 102 will be accepted as a substitute for GEOL 107 and 108, but students should be aware these courses are not intended for science majors.
- Students who do not take a year of physics should take descriptive astronomy.
- A minimum of 8 additional hours in earth science is required. Recommended courses are introductory soils, oceanography, geomorphology, and other appropriate advanced courses in agronomy, astronomy, geology, and geography.
- Quantitative Reasoning 1 requirement must be satisfied. Calculus and analytic geometry (MATH 120) is recommended for all students.

**CURRICULUM PREPARATORY TO THE TEACHING OF ENGLISH****For the Degree of Bachelor of Arts in the Teaching of English**

A minimum of 128 hours is required for graduation in this curriculum. The student is required to complete one teaching minor or to fulfill requirements for an alternative to a minor. A student who elects the teacher education major in literature must complete the teacher education minor in rhetoric or in English as a second language. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** Distinction will be awarded on the basis of grade-point average and satisfactory completion of honors, individual study, and honors thesis courses. See the English education adviser for a detailed statement of the requirements.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major. Students must elect a course in the oral interpretation of literature.

<b>HOURS</b>	<b>PROFESSIONAL EDUCATION REQUIREMENTS</b>
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 239—Microteaching: Practice in Teaching Techniques
1	SP ED 218—Exceptional Students in Secondary Schools
2	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
3	C & I 372—Teaching of Reading in Grades 4-12
4	C & I 241—Techniques of Teaching in the Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
29-32	Total

**Option I: Teacher Education Major in English**

<b>HOURS</b>	<b>REQUIREMENTS OF THE MAJOR</b>
6-7	ENGL 101—Introduction to Poetry, and one of the following: ENGL 102—Introduction to the Drama ENGL 103—Introduction to Fiction ENGL 198—Freshman Honors Tutorial
3	Shakespeare
6	Survey of American literature <sup>1</sup>
6	Survey of English literature <sup>2</sup>
3	ENGL 215—Practical Criticism, or approved substitute
3	ENGL 302—Descriptive English Grammar
3	ENGL 301—Introduction to the Study of the English Language, or ENGL 303—Historical Introduction to the English Language
3	ENGL 381—Theory and Practice of Written Composition
3	ENGL 385—Literature for the High School
6	Advanced electives in literature
42-43	Total
18-30	Any approved teacher education minor (see page 46) or an approved alternative to a minor (see an adviser for details)



- 1 ENGL 255 and 256—Survey of American Literature, I and II are strongly recommended.  
 2 ENGL 209—English Literature from the Beginning to 1798, and ENGL 210—English Literature from 1798 to Present are strongly recommended.

### Option 2: Teacher Education Major in Literature

Available only with the teacher education minor in rhetoric or in English as a second language.

HOURS	REQUIREMENTS OF THE MAJOR
6-7 min	Choose from:
	ENGL 101—Introduction to Poetry
	ENGL 102—Introduction to the Drama
	ENGL 103—Introduction to Fiction
	ENGL 198—Freshman Honors Tutorial
3	Shakespeare
6	Survey of American literature <sup>1</sup>
6	Survey of English literature <sup>2</sup>
3	ENGL 215—Practical Criticism
3	ENGL 385—Literature for the High School
9	Advanced electives in literature
36-37	Total

1. ENGL 255 and 256—Survey of American Literature, I and II are strongly recommended.  
 2. ENGL 209—English Literature from the Beginning to 1798, and ENGL 210—English Literature from 1798 to Present are strongly recommended.

### CURRICULUM PREPARATORY TO TEACHING FOREIGN LANGUAGES

The College of Liberal Arts and Sciences offers curricula for the preparation of teachers of French, German, Latin, Russian, and Spanish. Teacher education minors are also available in these languages and in Italian and Portuguese. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

**Specialty for Teaching a Foreign Language in Both High School and Elementary School.** A student who wishes to prepare for teaching a foreign language at the elementary and secondary school levels should consult the certification officer at the Council on Teacher Education, 110 Education Building, for information concerning current state requirements and procedures.

#### GENERAL EDUCATION REQUIREMENTS

See page 154.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
3	HUMAN 279—Introduction to Foreign Language Education
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	E P S 201—Foundations of American Education
2	Parateaching <sup>1</sup>
3	EDPSY 211—Educational Psychology
1	SP ED 218—Exceptional Students in Secondary Schools
8	ED PR 242—Educational Practice in Secondary Education
24	Total

1. The student is required to complete FR 270, GER 270, LAT 270, RUSS 270, or SPAN 270, depending on his or her major.

### CURRICULUM PREPARATORY TO THE TEACHING OF FRENCH

#### For the Degree of Bachelor of Arts in the Teaching of French

A minimum of 120 hours is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** A student must have a minimum 4.5 cumulative grade-point average, including a *Satisfactory* in practice teaching; complete two additional advanced-level courses in French; complete a senior thesis (FR 292), and provide two letters of recommendation as evidence of exceptional teaching. Consult the teacher education adviser for details.

#### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
24	Professional education courses. (See the entry for curricula preparatory to teaching foreign languages, this page.)
HOURS	TEACHING AREA OF CONCENTRATION: FRENCH
8	FR 101 and 102—Elementary French, I and II; or equivalent
8	FR 133 and 134—Accelerated Intermediate French, I and II; or equivalent
6	FR 209 and 210—Introduction to French Literature, I and II; or equivalent
9	FR 205 and 206—Oral French, I and II; and FR 217—Advanced Oral French; or equivalents
3	FR 207—Grammar and Composition, or equivalent
6	FR 335 and 336—French Civilization, I and II; or equivalent
4	FR 280—Teachers' Course, or equivalent
	This course will count as part of the professional education requirements for certification purposes. Normally taken during the student teaching semester.
5	French electives selected from among advanced-level courses in French civilization, language, and/or literature
49	Total <sup>1</sup>

NOTE: French Study Abroad (FR 299) is strongly recommended.

1. The total of 49 hours may be reduced by as much as 16 hours through prerequisite credit for work equivalent to FR 101 through 104 taken in secondary school.

### CURRICULUM PREPARATORY TO THE TEACHING OF GERMAN

#### For the Degree of Bachelor of Arts in the Teaching of German

A minimum of 120 hours of credit is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** Students should consult their advisers by the second semester of the junior year for information pertaining to seminar honors work and honors awards in the department.

#### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
24	Professional education courses. (See the entry for curricula preparatory to teaching foreign languages, this page.)
HOURS	TEACHING AREA OF CONCENTRATION: GERMAN
8	GER 101 and 102—Elementary German, or equivalent
8	GER 103 and 104—Intermediate German, or equivalent
6	GER 211 and 212—Conversation and Writing, or equivalent
6	GER 231 and 232—Introduction to German Literature, I and II; or equivalent
4	GER 280—Teachers' Course, or equivalent
	This course will count as part of the professional education requirements for certification purposes
3	GER 301—Advanced Conversation, Composition, and Syntax, or equivalent
1	GER 302—Advanced Conversation, or equivalent
4	GER 320—History of German Civilization, or equivalent
3	Choose from:
	GER 330—Modern German Poetry
	GER 331—The German <i>Nouvelle</i>
	GER 332—German Drama
	GER 335—Literature and Culture of the German Democratic Republic
3	GER 365—Structure of the German Language, I, or equivalent
49	German elective Total <sup>1</sup>

NOTE: German Study Abroad (GER 299) is strongly recommended

#### TEACHER EDUCATION MINOR REQUIREMENT

A student in this curriculum is required to complete a teacher education minor. See page 46 for a list of approved minors. See this page for

requirements to be fulfilled by those planning to teach German in both elementary and secondary schools.

1. The total of 49 hours may be reduced by as much as 16 hours through prerequisite credit for work equivalent to GER 101-104 taken in secondary school.

## CURRICULUM PREPARATORY TO THE TEACHING OF LATIN

### For the Degree of Bachelor of Arts in the Teaching of Latin

A minimum of 120 hours of credit is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign language in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** The requirements for distinction in the teaching of Latin are the same as those for distinction in the classics.

#### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
24	Professional education courses. (See the entry for curricula preparatory to teaching foreign languages, page 157.)
HOURS	TEACHING AREA OF CONCENTRATION: LATIN
8	LAT 101 and 102—Elementary Latin, or equivalent
8	LAT 103—Intermediate Latin, and LAT 104—Introduction to Latin Literature, or equivalent
3	LAT 311—Intermediate Prose Composition
6	LAT 201 and 202—Survey of Latin Literature, or equivalent
4	LAT 280—Teachers' Course, or equivalent
	This course will count as part of the professional education requirements for certification purposes. It must be taken during the student teaching semester.
6	LAT 391—Readings from Latin Literature, or equivalent
6	HIST 181 and 182—The Ancient World, or equivalent
6	CLCIV 131—Introduction to Classical Archaeology: Greece, and CLCIV 132—Introduction to Classical Archaeology: Rome and Italy, or equivalent
47	Total <sup>1</sup>

#### TEACHER EDUCATION MINOR REQUIREMENT

A student in this curriculum is required to complete a teacher education minor. See page 46 for a list of approved minors. See page 157 for requirements to be fulfilled by those planning to teach Latin in both elementary and secondary schools.

1. The total of 47 hours may be reduced by as much as 16 hours through prerequisite credit for work equivalent to LAT 101-104 taken in secondary school.

## CURRICULUM PREPARATORY TO THE TEACHING OF RUSSIAN

### For the Degree of Bachelor of Arts in the Teaching of Russian

A minimum of 123 hours of credit is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** The requirements for graduation with distinction in the teaching of Russian are the same as for graduation with distinction in the Russian language and literature major.

#### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the 15-hour humanities requirements by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
24	Professional education courses. (See the entry for curricula preparatory to teaching foreign languages, page 157.)
HOURS	TEACHING AREA OF CONCENTRATION: RUSSIAN COURSES IN LANGUAGES AND LITERATURE:
8	RUSS 101 and 102—First-Year Russian, I and II; or equivalent

8	RUSS 103 and 104—Second-Year Russian, I and II; or equivalent
6	RUSS 211 and 212—Russian Conversation, I and II; or RUSS 303 and 304—Advanced Reading and Conversation, I and II
6	RUSS 213 and 214—Russian Composition, I and II; or RUSS 313 and 314—Advanced Composition and Usage, I and II
6	RUSS 215 and 216—Introduction to Russian Literature, I and II
3	RUSS 308—Russian Phonetics and Pronunciation
3	RUSS 315—Nineteenth-Century Literature in Translation; or RUSS 115—Russian Masterpieces in Translation, I; RUSS 116—Russian Masterpieces in Translation, II; RUSS 225—Soviet Russian Literature; or RUSS 317—Twentieth-Century Literature in Translation
4	RUSS 280—Teachers' Course, or equivalent
	This course will count as part of the professional education requirements for certification purposes. It must be taken during the student teaching semester.
44	Total <sup>1</sup>
3	COURSES IN RUSSIAN HISTORY AND CIVILIZATION:
	HIST 219—Survey of Russian History from Early Times to the Present; or HIST 320—Russia from the Earliest Times to Peter the Great; or HIST 321—Early Imperial Russia; or HIST 326—Intellectual and Cultural History of Russia; or HIST 327—Late Imperial Russia; or HIST 328—History of the Soviet Union Since 1917
3	RUSS 113—Russian Civilization through Literature, or RUSS 114—Ex-Soviet Society through Literature
6	Total
HOURS	ELECTIVES
3 min	Recommended electives include:
	ARTHI 111—Ancient and Medieval Art
	ARTHI 112—Renaissance and Modern Art
	C LIT 340—Studies in Russian Literature and Society
	C LIT 368—Russian Drama
	MUSIC 130—Introduction to the Art of Music
	MUSIC 131—Masterworks of Western Music
	PHIL 101—Introduction to Philosophy
	SLAV 319—Studies in Russian and East European Cinema
	SLAV 313—European History from 1918 to 1939
	HIST 314—European History from 1939 to the Present
	Courses in Russian and East European area studies (anthropology, economics, geography, history, political science, sociology, etc.)
	Advanced courses in the major or minor field.

#### TEACHER EDUCATION MINOR REQUIREMENT

A student in this curriculum is required to complete a teacher education minor. See page 46 for a list of approved minors. See page 157 for requirements to be fulfilled by those planning to teach Russian in both elementary and secondary schools.

1. The total of 44 hours may be reduced by as much as 16 hours through prerequisite credit for work equivalent to RUSS 101 through 104 taken in secondary school.

## CURRICULUM PREPARATORY TO THE TEACHING OF SPANISH

### For the Degree of Bachelor of Arts in the Teaching of Spanish

A minimum of 123 hours of credit is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information. See page 157 for requirements to be fulfilled by those planning to teach Spanish in both elementary and secondary schools.

**Departmental Distinction.** To be eligible for departmental distinction, a student must have a minimum grade-point average of 4.0, display exceptional teaching ability, and complete an approved project or series of projects. Consult the Spanish teacher training adviser for details.

**Foreign Study.** It is strongly recommended that future teachers of Spanish engage in one or more semesters of study in a Spanish-speaking country. A number of the curricular requirements listed above may be met through the Year Abroad Program or other approved programs; see page 124.

**GENERAL EDUCATION REQUIREMENTS**

See page 154. The humanities requirement and the college foreign language requirement are fulfilled by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
24	Professional education courses. (See the entry for curricula preparatory to teaching foreign languages, page 157.)
HOURS	TEACHING AREA OF CONCENTRATION: SPANISH
8	SPAN 101 and 102—Elementary Spanish, or equivalent
8	SPAN 103 and 104—Intermediate Spanish, I and II; or equivalent
3	SPAN 210—Practical Review of Spanish, or equivalent
5-6	SPAN 220—Oral Spanish, or equivalent; and SPAN 216—Introduction to Spanish Phonetics, or SPAN 222—Intensive Spoken Spanish
3	SPAN 214—Spanish Composition, or equivalent
3	SPAN 200—Readings in Hispanic Literature and Culture, or equivalent
6	SPAN 240—Culture of Spain, and one course in Spanish American culture from departmental approved list
3	SPAN 225—Introduction to the Study of Hispanic Literature, I
3	SPAN 227—Introduction to the Study of Hispanic Literature, II
3	SPAN 274—Spanish Grammar for Communicative Language Teaching
4	SPAN 276—Teacher's course, or equivalent <sup>1</sup>
3-6	Spanish electives: one or two 200- or 300-level courses (for example, SPAN 260 and/or one advanced literature class)
52-56	Total <sup>2</sup>

1. This course is normally taken during the student teaching semester.

2. The total of 52-56 hours may be reduced by as much as 16 hours through prerequisite credit for work equivalent to SPAN 101 through 104 taken in secondary school.

## CURRICULUM PREPARATORY TO THE TEACHING OF MATHEMATICS<sup>1</sup>

### For the Degree of Bachelor of Science in the Teaching of Mathematics

This curriculum offers training for teachers of high school mathematics. A total of 120 hours of credit is required for graduation. A student must maintain University of Illinois and cumulative grade-point averages of 3.5 ( $A = 5.0$ ). In addition, a student must maintain a 3.5 in both transfer and University of Illinois mathematics courses. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** A subcommittee of the area committee will select students for distinction based upon (1) overall grade-point averages of 4.25 for distinction, 4.5 for high distinction, and 4.75 for highest distinction; (2) grade-point averages in mathematics and education courses of at least 4.4 for distinction, 4.6 for high distinction, and 4.8 for highest distinction; and (3) recommendations of the teaching supervisors and other evidence of the student's teaching work for candidates for high distinction and highest distinction.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the mathematics requirement by the requirements of the major. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
1	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
1	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
0-2	E P S 201—Foundations of American Education
	C & I 239—Microteaching: Practice in Teaching Techniques, or fifteen clock hours of mathematics tutoring in an approved mathematics tutorial program
5	C & I 241—Techniques of Teaching in the Secondary Schools
1	SP ED 218—Exceptional Students in Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
23-28	Total

HOURS	REQUIREMENTS OF THE MAJOR
10-11	Calculus through MATH 242 or 245
3	MATH 247—Fundamental Mathematics
3	MATH 302—Topics in Geometry
3	MATH 317—Introduction to Abstract Algebra
3	MATH 315—Linear Transformations and Matrices, or MATH 318—Introduction to Linear Algebra
3	MATH 344—Elementary Real Analysis, or MATH 347—Introduction to Higher Analysis: Real Variables
3-4	STAT 310/MATH 363—Introduction to Mathematical Statistics and Probability, I; or STAT 351/MATH 361—Introduction to Probability Theory, I
3	Computer science, choose from: C S 101—Introduction to Computing for Application to Engineering and Physical Science, and C S 110—Programming Laboratory C S 125—Introduction to Computer Science
9	Three additional advanced mathematics courses
40-42	Total

1. This statement reflects revisions of the major pending final approval at time of publication.

## COMBINED SCIENCES AND LETTERS/EDUCATION PROGRAM FOR MATHEMATICS TEACHERS<sup>1</sup>

### For the Degree of Bachelor of Science in Liberal Arts and Sciences and in the Teaching of Mathematics

This program leads to the degree of bachelor of science, with a major in mathematics. A student must maintain a 4.0 ( $A = 5.0$ ) grade-point average in mathematics and a 3.75 all University grade-point average to remain in the program. All requirements for the sciences and letters curriculum must be met. A total of 120 hours is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the mathematics requirement by the requirements of the major. Students must elect PHYS 106 and 107, CHEM 107, 108, 109, 110, or an approved science sequence of equivalent merit. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
1	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
1	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
0-2	E P S 201—Foundations of American Education
	C & I 239—Microteaching: Practice in Teaching Techniques, or fifteen clock hours of mathematics tutoring in an approved mathematics tutorial program
5	C & I 241—Techniques of Teaching in the Secondary Schools
1	SP ED 218—Exceptional Students in Secondary Schools
5-8	ED PR 242—Educational Practice in Secondary Education
23-28	Total
HOURS	REQUIREMENTS OF THE MAJOR
10-11	Calculus through MATH 242 or 245
3	MATH 302—Topics in Geometry
3	MATH 247—Fundamental Mathematics
3	MATH 317—Introduction to Abstract Algebra
3	MATH 315—Linear Transformations and Matrices, or MATH 318—Introduction to Linear Algebra
3	MATH 344—Elementary Real Analysis, or MATH 347—Introduction to Higher Analysis: Real Variables
3-4	STAT 310/MATH 363—Introduction to Probability Theory, I; or STAT 351/MATH 361—Introduction to Mathematical Statistics and Probability, I
3-4	C S 101—Introduction to Computing for Application to Engineering and Physical Science, and C S 110—Programming Laboratory; or C S 125—Introduction to Computer Science
9	Three additional advanced mathematics courses
40-42	Total



**REQUIREMENTS OF THE MINOR**

Each candidate must complete either (a) a teaching minor in biology, chemistry, computer science, economics, foreign language, physics, physical science, or social science, or (b) 12 hours of course work in a field related to mathematics and consisting of courses that make use of mathematical principles and techniques. Approval of the department undergraduate advising office is required for the related course sequence.

1. This statement reflects revisions of the major pending final approval at time of publication.

**CURRICULUM PREPARATORY TO THE TEACHING OF PHYSICS****For the Degree of Bachelor of Science in the Teaching of Physics**

The curriculum is designed to prepare students to teach high school physics with a second teaching field in either mathematics or chemistry. A minimum of 132 hours of credit is required for graduation. In addition, a student must have at least a 3.5 (A = 5.0) cumulative and University of Illinois grade-point average to remain in the curriculum. A student must also maintain at least a 3.0 average in all attempts at science and mathematics courses taken at the University of Illinois in order to remain in the curriculum.

Students must complete a general chemistry sequence, MATH 242 or MATH 245—Calculus of Several Variables, and MATH 285—Differential Equations and Orthogonal Functions, or its equivalent. In addition, the curriculum requires the completion of either the teacher education minor in chemistry or the teacher education minor in mathematics. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** Distinction is determined by a combination of grade-point average and achievement in student teaching. The student's practice teaching experience will be evaluated by the departmental honors adviser and the teaching supervisor. Distinction requires a 4.2 grade-point average; high distinction, 4.4; highest distinction, 4.6. Students desiring distinction should consult with the departmental honors adviser during the junior year.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Students may need additional hours in humanities to complete the 15-hour minimum required for certification.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
2	SP ED 218—Exceptional Students in Secondary Schools
3	C & I 241—Techniques of Teaching in the Secondary Schools
8	ED PR 242—Educational Practice in Secondary Education
30	Total

HOURS	REQUIREMENTS OF THE MAJOR
8	GENERAL CHEMISTRY
	MATHEMATICS:
10-11	Calculus and analytic geometry
3	MATH 285—Differential Equations and Orthogonal Functions
13-14	Total mathematics
	PHYSICS:
12	PHYS 106—General Physics (Mechanics), PHYS 107—General Physics (Heat, Electricity, and Magnetism), and PHYS 108—General Physics (Light, Sound, and the Structure of Matter)
3	PHYS 225—Intermediate Mechanics and Relativity, I
3	PHYS 301—Classical Physics Laboratory
3	PHYS 335—Electromagnetic Fields and Sources, I
3	PHYS 371—Light (300-level)
3	PHYS 383—Atomic Physics and Quantum Theory
4	Electives in physics (200- and 300-level, excluding PHYS 319)
32	Total physics
53-54	Total

1. This statement reflects revisions of the major pending final approval at time of publication.

HOURS	REQUIREMENTS OF A TEACHER EDUCATION MINOR
8-11	A teacher education minor in chemistry or in mathematics (see pages 162 and 163)

**CURRICULUM PREPARATORY TO THE TEACHING OF SOCIAL STUDIES****For the Degree of Bachelor of Arts in the Teaching of Social Studies**

A minimum of 120 hours is required for graduation. This curriculum prepares its graduates for teaching social studies in grades six through twelve. The choice of options will be determined in consultation with the faculty adviser for this curriculum. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** To be eligible for graduation with distinction, a student must have a grade-point average of 4.25 in the major field, which is history. Students are encouraged to make the necessary arrangements for graduation with distinction through consultation with the major adviser during the spring semester of the junior year.

**GENERAL EDUCATION REQUIREMENTS**

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
3	EDPSY 211—Educational Psychology
3	E P S 201—Foundations of American Education
2	C & I 239—Microteaching: Practice in Teaching Techniques
2	SP ED 218—Exceptional Students in Secondary Schools
3	C & I 241—Techniques of Teaching in the Secondary Schools
8	ED PR 242—Educational Practice in Secondary Education
28	Total

**Option A**

HOURS	REQUIREMENTS OF THE MAJOR AND MINOR
20	History courses
6-8	Survey of non-American history
6	American history (advanced hours)
6	European or non-Western history (advanced hours)
22-24	One course chosen from four of the following five fields (anthropology, economics, geography, political science, sociology) with a concentration of 8 to 9 hours in two Teacher education minor in an approved teaching field outside the social studies area
20-24	Total in Option A

**Option B**

HOURS	REQUIREMENTS OF THE MAJOR AND MINOR
20	History courses
6-8	Survey of non-American history
6	American history (advanced hours)
6	European or non-Western history (advanced hours)
16-18	Concentration in two social studies fields other than minor field
20	Minor within the social studies area (anthropology, economics, geography, political science, sociology)
56-58	Total in Option B

**CURRICULUM PREPARATORY TO THE TEACHING OF SPEECH****For the Degree of Bachelor of Arts in the Teaching of Speech**

This program is designed to give the teacher a foundation in the areas of public speaking, communication, and theatre arts. A minimum of 132 hours of credit is required for graduation. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**Departmental Distinction.** The requirements for distinction in the curriculum preparatory to the teaching of speech are the same as those for speech communication.

#### GENERAL EDUCATION REQUIREMENTS

See the description of the general education requirements on page 154. Note that students in this curriculum satisfy the 15-hour humanities requirement by the requirements of the major. Students must elect 9 hours in literature.

HOURS	PROFESSIONAL EDUCATION REQUIREMENTS
2	C & I 101—Introduction to the Teaching of Secondary School Subjects
2	C & I 219—Field Experience in Secondary Teaching
2	C & I 240—Secondary Education in the United States
2	C & I 229—Field Experience in Secondary Education
2	C & I 235—Microteaching: Practice in Teaching Techniques
1	SP ED 218—Exceptional Students in Secondary Schools
3	EDPSY 211—Educational Psychology
3	F P S 201—Foundations of American Education
3	C & I 241—Techniques of Teaching Secondary Schools, or C & I/SPCOM 247—Teaching of Speech
8	ED PR 242—Educational Practice in Secondary Education
28	Total

HOURS	REQUIREMENTS FOR THE MAJOR
3-6	SPCOM 101—Principles of Effective Speaking, SPCOM 111 and 112—Verbal Communication, or SPCOM 120—Advanced Public Speaking
3	SPCOM 113—Group Discussion and Conference Leadership
3	SPCOM 123—Public Discussion and Debate, or SPCOM 223—Argumentation: Theory and Practice
3	SPCOM 141/THEAT 180—Oral Interpretation
2-3	SPCOM 255/THEAT 281—Directing: Script Preparation, or SPCOM 142/THEAT 181—Group Oral Interpretation of Literature
3	SPCOM 161/THEAT 170—Fundamentals of Acting
3	SPCOM 230—Interpersonal Communication
15	Electives chosen from the following areas with the approval of the program coordinator (9 hours must be at the 200 level or above, and at least 9 hours must be in speech communication courses):

- Interpersonal, group, and organizational communication
- Oral interpretation
- Public discourse, persuasion, and argument
- Theory and criticism of rhetoric
- Theatre
- Mass communication practice and criticism

#### TEACHER EDUCATION MINOR REQUIREMENT

A student in this curriculum is required to complete a teacher education minor. See page 46 for a list of the possible minors.

## TEACHER EDUCATION MINORS

### ENGLISH AND SPEECH

#### TEACHER EDUCATION MINOR IN ENGLISH

HOURS	REQUIREMENTS*
4	RHET 105—Principles of Composition, or RHET 108—Forms of Composition
6	Two courses in American literature (ENGL 255 and 256—Survey of American Literature, I and II are strongly recommended)
6	Two courses in English literature (ENGL 209—English Literature from the Beginning to 1789, and ENGL 210—English Literature from 1798 to Present are strongly recommended)
3	ENGL 381—Theory and Practice of Written Composition, or RHET 133—Principles of Composition, or RHET 143—Expository Writing (ENGL 381 is strongly recommended)
3	ENGL 302—Descriptive English Grammar
6	Electives in English or American literature (ENGL 215—Practical Criticism is strongly recommended)
28	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

#### TEACHER EDUCATION MINOR IN ENGLISH AS A SECOND LANGUAGE

For those in another teacher education curriculum who want to prepare themselves to gain an ESL approval on their teacher's certificate related to their major field.

HOURS	REQUIREMENTS
3	LING 200—Introduction to Language Science
3	E I L/LING 388—English Phonology and Morphology for ESL Teachers
3	E I L 302—Descriptive English Grammar for ESL Teachers
3	E I L/LING 389—Theoretical Foundations of Second Language Acquisition
3	E I L 360—Principles of Languages Testing
3	E I L 311—ESL Methods and Materials
2	E I L 214—ESL in Elementary School, or E I L 215—ESL in the Secondary School
3	E I L 356—Impact of Cultural Differences in the TESL, or C & I 346—Culture in the Classroom
23	Total

#### TEACHER EDUCATION MINOR IN RHETORIC

Available only with a teacher education major in literature.

HOURS	REQUIREMENTS
6-7	Choose from:
	RHET 105—Principles of Composition, and a speech performance elective
	RHET 108—Forms of Composition, and a speech performance elective
	SPCOM 111 and 112—Verbal Communication
3	RHET 133—Principles of Composition, or RHET 143—Intermediate Expository Writing
3	RHET 144—Introductory Narrative Writing
3	ENGL 381—Theory and Practice of Written Composition
3	ENGL 302—Descriptive English Grammar
6-7	Electives in rhetoric or related fields
24-26	Total

#### TEACHER EDUCATION MINOR IN SPEECH

HOURS	REQUIREMENTS*
3-6	SPCOM 101—Principles of Effective Speaking, or SPCOM 111 and 112—Verbal Communication
3	SPCOM 120—Advanced Oral Communication, or SPCOM 221—Persuasion
3	SPCOM 141/THEAT 180—Oral Interpretation
3	SPCOM 161/THEAT 170—Fundamentals of Acting
2-3	SPCOM 255/THEAT 281—Directing: Script Preparation, or SPCOM 142/THEAT 181—Group Oral Interpretation of Literature
3	SPCOM 247/C & I 247—Teaching of Speech
3	SPCOM 113—Group Discussion and Conference Leadership, or SPCOM 230—Interpersonal Communication
20-24	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

### FOREIGN LANGUAGES

#### TEACHER EDUCATION MINOR IN FRENCH

HOURS	REQUIREMENTS*
8	FR 101 and 102—Elementary French, I and II; or equivalent
8	FR 133 and 134—Accelerated Intermediate French, I and II; or equivalent
6	FR 205 and 206—Oral French, I and II; or equivalent
22	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

#### TEACHER EDUCATION MINOR IN GERMAN

HOURS	REQUIREMENTS*
8	GER 101 and 102—Elementary German
8	GER 103 and 104—Intermediate German
6	GER 211 and 212—Conversation and Writing
22	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN ITALIAN

HOURS	REQUIREMENTS*
8	ITAL 101 and 102—Elementary Italian, or equivalent
8	ITAL 103 and 104—Intermediate Italian, or equivalent
6	ITAL 220 and 222—Conversation, I and II
22	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN LATIN

HOURS	REQUIREMENTS*
8	LAT 101 and 102—Elementary Latin, or equivalent
8	LAT 103—Intermediate Latin, and LAT 104—Introduction to Latin Literature, or equivalent
3	LAT 311—Intermediate Prose Composition
6	LAT 201 and 202—Survey of Latin Literature, or equivalent
4	LAT 280—Teachers' Course
29 <sup>1</sup>	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for more information.

1. The total of 29 hours may be reduced by as much as 16 hours through prerequisite credit for secondary school work equivalent to LAT 101 through 104. One semester of readings in Latin literature will be required in such cases.

### TEACHER EDUCATION MINOR IN PORTUGUESE

HOURS	REQUIREMENTS*
8	PORT 101 and 102—Elementary Portuguese, I and II
8	PORT 103 and 104—Intermediate Portuguese
3	PORT 210—Composition and Conversation, I
3	PORT 310—Studies in Brazilian Literature
22	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN RUSSIAN

HOURS	REQUIREMENTS*
8	RUSS 101 and 102—First-Year Russian, I and II; or equivalent
8	RUSS 103 and 104—Second-Year Russian, I and II; or equivalent
6	RUSS 211 and 212—Russian Conversation, I and II
22	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN SPANISH

HOURS	REQUIREMENTS*
8	SPAN 101 and 102—Elementary Spanish, or equivalent
8	SPAN 103 and 104—Intermediate Spanish, I and II; or equivalent
3	SPAN 210—Practical Review of Spanish, or equivalent
3	SPAN 220—Oral Spanish, or equivalent
3	SPAN 214—Spanish Composition, or equivalent
25	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996, and foreign languages in grades nine through twelve after June 30, 1997. Consult the certification officer in 110 Education Building for additional information.

## MATHEMATICS AND COMPUTER SCIENCE

### TEACHER EDUCATION MINOR IN COMPUTER SCIENCE

Students taking this minor will be enrolled in one of the teacher education programs, and will meet the general education requirements of that program.

HOURS	REQUIREMENTS
3	C S 125—Introduction to Computer Science
2	C S 173—Discrete Mathematics
1	C S 223—Computer Programming Laboratory
4	C S 225—Data Structures
3	One 200-level course, choose from: C S 231—Computer Architecture, I C S 257—Numerical Methods C S 273—Introduction to Theory of Computation
6	Two additional 200- or 300-level courses, to be selected in consultation with the director of undergraduate programs in the computer science department
19 <sup>1</sup>	Total*

\*Completion of this minor does not result in certification to teach computer science in the state of Illinois. However, students who complete this minor will be eligible to teach computer science in the public schools upon satisfaction of additional requirements. For additional information about certification, contact the certification officer of the Council on Teacher Education.

1. Students will need 32 hours of computer science to be certified in this area.

### TEACHER EDUCATION MINOR IN MATHEMATICS

For students in teacher education curricula other than mathematics who wish to be qualified to teach mathematics at the high school or middle school level.

HOURS	REQUIREMENTS TO TEACH MATHEMATICS IN GRADES 9-12
8	Math 120—Calculus and Analytic Geometry, I; and MATH 130—Calculus and Analytic Geometry, II; or equivalent
3 min	Methods courses in the teaching of mathematics
2	C & I 101—M—Introduction to the Teaching of Secondary School Subjects
1	C & I 219—Field Experience in Secondary Teaching
14	At least 14 hours of work chosen as follows: MATH 242—Calculus of Several Variables MATH 302—Topics on Geometry Courses from at least two areas other than applied mathematics and geometry, to be chosen from the following list: COMPUTER SCIENCE: C S 101—Introduction to Computing for Application to Engineering and Physical Science, and C S 110—Programming Laboratory C S 105—Introduction to Computing with Application to Business and Commerce LINEAR ALGEBRA: MATH 125—Elementary Linear Algebra with Applications MATH 225—Introductory Matrix Theory MATH 315—Linear Transformations and Matrices MATH 383—Linear Programming MODERN ALGEBRA: MATH 313—Combinatorial Mathematics MATH 317—Introduction to Abstract Algebra MATH 353—Elementary Theory of Numbers ADVANCED ASPECTS OF EUCLIDEAN GEOMETRY: MATH 303—Advanced Aspects of Euclidean Geometry APPLIED MATHEMATICS: MATH 247—Fundamental Mathematics MATH 285—Differential Equations and Orthogonal Functions MATH 341—Differential Equations MATH 344—Elementary Real Analysis MATH 346—Complex Variables and Applications PROBABILITY-STATISTICS: STAT 210/MATH 263— STAT 310/MATH 363—Introduction to Mathematical Statistics and Probability, I HISTORY OF CALCULUS: MATH 306—History of Calculus
HOURS	REQUIREMENTS TO TEACH MATHEMATICS IN GRADES 6-8*
3	C & I 330-M—Principles in Mathematics Education (section M)



15 min	Work from at least four of the following areas:
	MATH FOR ELEMENTARY TEACHERS:
	MATH 200—Computers for Elementary Teachers
	MATH 201—Mathematics for Elementary Teachers
	CALCULUS:
	MATH 120—Calculus and Analytic Geometry, I
	MATH 130—Calculus and Analytic Geometry, II
	MODERN ALGEBRA:
	MATH 313—Combinatorial Mathematics
	MATH 317—Introduction to Abstract Algebra
	MATH 353—Elementary Theory of Numbers
	TOPICS ON GEOMETRY:
	MATH 302—Topics in Geometry
	COMPUTER SCIENCE:
	C S 101—Introduction to Computing for Application to Engineering and Physical Science, and C S 110—Programming Laboratory, or equivalent
	PROBABILITY-STATISTICS:
	STAT 100/MATH 161—Statistics
	STAT 210/MATH 263—
	STAT 310/MATH 363—Introduction to Mathematical Statistics and Probability, I
	HISTORY OF MATHEMATICS:
	MATH 306—History of Calculus

\*Students are advised that additional course work may be necessary to teach in grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

## SCIENCE

### TEACHER EDUCATION MINOR IN BIOLOGY<sup>1</sup>

Two options are available to satisfy principles of biology. Option 1: Biology 104 and Plant Biology 100 (8 hours), which requires the completion of Biology 210. Option 2: Biology 120, 121, and 122 (15 hours), which does not require Biology 210. Electives totaling 12 hours are to be chosen from the various departments in the School of Life Sciences, in consultation with the adviser. An attempt should be made to obtain background in each of the general areas in the School of Life Sciences to give the student minor in the teaching of biological sciences as much breadth as possible as a prospective biology teacher. A course in plant biology is strongly advised.

HOURS	REQUIREMENTS*
12-15	Principles of biology
12	Option 1: BIOL 104—Animal Biology and PLBIO 100—Plant Biology and BIOL 210—Genetics
15	Option 2: BIOL 120—Genetics, Evolution, and Biodiversity; BIOL 121—Ecology and Organismic Biology, and BIOL 122—Molecular and Cellular Biology
12	Electives to be taken in the life science areas chosen in consultation with the biology education adviser
24-27	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

1. The statement reflects a revision of the teacher education minor in biology pending final approval at the time of publication.

### TEACHER EDUCATION MINOR IN CHEMISTRY

HOURS	REQUIREMENTS*
10-11	General chemistry, choose from: CHEM 107—Accelerated Chemistry, I; CHEM 108—Accelerated Chemistry, II; CHEM 109—Accelerated Chemistry Laboratory, I; and CHEM 110—Accelerated Chemistry Laboratory, II; or CHEM 101—General Chemistry, CHEM 102—General Chemistry (Biological or Physical Version), and CHEM 122—Elementary Quantitative Analysis (CHEM 223—Quantitative Analysis Lecture, and CHEM 224—Quantitative Analysis Laboratory may be taken as an alternative to CHEM 122)
5	Elementary organic chemistry including laboratory
10-12	Chemistry or other physical science courses
25-28	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN EARTH SCIENCE

HOURS	REQUIREMENTS*
6	ASTR 121 and 122—Descriptive Astronomy, I and II
4	Physical geography
8	GEOL 107 and 108—General Geology, I and II
2	GEOL 115—Regional Field Study
4	GEOL 332—Mineralogy and Mineral Optics
24	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

1. Students who decide to follow the earth science teaching minor after first taking GEOL 101 or 111 or 100 and 102 should enroll in GEOL 108; students who decide to follow the minor after first taking GEOL 100 (without 110), 104, 105, or 143 should enroll in GEOL 107. The combination of GEOL 101 (or 111 or 100/110) and 102 will be accepted as a substitute for GEOL 107 and 108, but students should be aware these courses are not intended for science majors.

### TEACHER EDUCATION MINOR IN GENERAL SCIENCE<sup>1</sup>

Additional hours in other sciences, such as astronomy, geology, and physical geography, are recommended for the student completing the minor in general science.

HOURS	REQUIREMENTS*
10	PHYS 101—General Physics (Mechanics, Heat, and Sound), and PHYS 102—General Physics (Light, Electricity, Magnetism, and Modern Physics)
10	Principles of biology <sup>2</sup>
8	General chemistry
28	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

1. A revision of the teacher education minor in general science was pending at the time of publication.  
2. Consult the certification officer in 110 Education Building for appropriate courses.

### TEACHER EDUCATION MINOR IN PHYSICAL SCIENCE

A total of 24 semester hours in the field is required, with approximately half of the work in chemistry and the other half in physics. Additional work in other physical sciences, such as astronomy, geology, and physical geography, is recommended. This minor is intended primarily for students preparing to teach mathematics. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

### TEACHER EDUCATION MINOR IN PHYSICS

HOURS	REQUIREMENTS*
18	General physics and advanced physics
8	General chemistry
26	Total

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

## SOCIAL SCIENCES

### TEACHER EDUCATION MINOR IN HISTORY\*

For a minor in history, a student must complete at least 9 semester hours in American history, and 9 semester hours in world history. No more than 15 of these 18 hours may be at the 100 level. Students must also take at least another 6 hours of electives, which should include attention to ethnic history and the history of women. The minimum total required for the minor is 24 hours. Nine of the 24 total hours must be at the 200 or 300 level.

\*Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**TEACHER EDUCATION MINOR IN PSYCHOLOGY**

A minimum of 22 hours in psychology is required, with at least one course (a minimum of 3 hours) in each of the following areas: introductory psychology; statistics; personality—developmental, experimental, and social. It is strongly recommended that the additional hours include courses dealing with methods of research in psychology. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**TEACHER EDUCATION MINOR IN SOCIAL STUDIES**

For a minor in social studies, a student must complete at least 8 hours of work in each of two of the following subjects: anthropology, economics, human geography, political science, sociology. The minimum total required for the minor is 24 hours from these five areas. Students are advised that additional course work may be necessary to teach middle grades six through eight after June 30, 1996. Consult the certification officer in 110 Education Building for additional information.

**INTERDISCIPLINARY MINORS****TEACHER EDUCATION MINOR IN CINEMA STUDIES\***

Upon electing this minor, a student should consult with the academic adviser of the Unit for Cinema Studies for assignment to a faculty adviser. The sequence of courses counted toward completion of this minor must be approved in writing by the cinema studies adviser prior to the completion of the student's sixth semester. See the cinema studies section in the *Timetable* each semester for a list of courses currently being offered. Contact the Unit for Cinema Studies for a more detailed description of these courses.

HOURS	REQUIREMENTS
3	ENGL 104—Introduction to Film
3	ARTCI 180—Introduction to Cinematography, ARTCI 280—Basic Cinematography, or ARTCI 380—Cinematography, or equivalent <sup>1</sup>
3	CINE 261—Survey of World Cinema I: The Beginnings through the Coming of Sound
3	CINE 262—Survey of World Cinema II: The Thirties to the Present, or CINE 361—Film Theory and Criticism
9*	HUMAN 297—Junior Seminar and Tutorial, or equivalent <sup>1</sup>
24	Other cinema studies courses
	Total

\*This minor does not lead to an endorsement in an additional teaching field.

1. The cinema studies adviser may approve a specific substitution for the cinematography and the junior seminar/tutorial requirements if the student is unable to secure these courses.
2. This total must include courses in at least two different departments in the humanities. It must also include at least 3 hours at the 300 level. One humanities cinema studies course offered under the HUMAN or the CINE rubrics may be counted toward this requirement.

**TEACHER EDUCATION MINOR IN WOMEN'S STUDIES\***

HOURS	REQUIREMENTS
3	W S 111—Introduction to Women's Studies in the Humanities
3	W S 112—Introduction to Women's Studies in the Social Sciences
3	Course in sex-role socialization
15	Other courses, no more than 6 at the 100 level, either offered by or cross-listed with the Women's Studies Program. These courses should form a coherent program, planned in consultation with an adviser in the Women's Studies Program, and an adviser in the student's major. At least four of the elective courses must be from either humanities (in the College of Liberal Arts and Sciences or the College of Fine and Applied Arts) or the social sciences and behavioral sciences (in the College of Liberal Arts and Sciences or the Department of Economics).
24	Total women's studies courses

\*This minor does not lead to an endorsement in an additional teaching field.

**JOINT DEGREE PROGRAMS****BACCALAUREATE-MASTER OF ACCOUNTING SCIENCE DEGREE PROGRAM**

The B.A./B.S.-M.A.S. program is designed to enable the qualified student to earn both a bachelor's degree in the College of Liberal Arts and Sciences and the master of accounting science degree in five years rather than the normal six years. The program integrates an undergraduate education with a professional education without diluting the quality or purpose of either. Program objectives will be met primarily by the completion of courses during the student's fourth year that are simultaneously electives in the baccalaureate program and requirements for the M.A.S. degree. A student who is interested in the joint degree should contact a program adviser (in 270 Lincoln Hall) early in the initial year.

The program is open to all students in the College of Liberal Arts and Sciences who meet the requirements below. In most cases, participants in the B.A./B.S.-M.A.S. program will complete their undergraduate majors by the end of the third year. As a consequence, some students will have to plan their course work carefully to meet their undergraduate educational objectives and to participate in the program; this will be particularly true for undergraduates whose majors require extensive sequential course work.

Because the B.A./B.S.-M.A.S. program is based on careful course selection and program planning, an interested student should consult with a B.A./B.S.-M.A.S. adviser during the first year. The program's objectives and requirements will be explained so that the student, in consultation with his or her baccalaureate degree program adviser, may plan course work to meet both objectives.

A student who wishes to participate in the B.A./B.S.-M.A.S. program must make formal application by March 31 in the second semester of the junior year. To be eligible for consideration, the student must have at least a 4.25 cumulative grade-point average, with at least 96 hours of course work completed, and at least a score of 550 on the Graduate Management Admissions Test (GMAT).

**BACCALAUREATE-MASTER OF BUSINESS ADMINISTRATION DEGREE PROGRAM**

The B.A./B.S.-M.B.A. program is designed to enable the qualified student to earn both a bachelor's degree in the College of Liberal Arts and Sciences and the master of business administration degree in five years rather than the normal six years. The program integrates an undergraduate education in a field such as English, political science, or economics with a professional business education without diluting the quality or purpose of either. Program objectives will be met primarily by the completion of courses during the student's fourth year that are simultaneously electives in the baccalaureate program and requirements for the M.B.A. degree. A student who is interested in the joint degree should contact the program adviser (in 270 Lincoln Hall) early in the first year.

The program is open to all students in the College of Liberal Arts and Sciences who meet the requirements below. In all cases, participants in the B.A./B.S.-M.B.A. program must complete their undergraduate majors by the end of the third year. As a consequence, some students will have to plan their course work carefully to meet their undergraduate educational objectives and to participate in the program; this will be particularly true for undergraduates whose majors require extensive sequential course work.

Since the B.A./B.S.-M.B.A. program is based on careful course selection and program planning, an interested student should consult with a B.A./B.S.-M.B.A. program adviser during the first year. The program's objectives and requirements will be explained so that the student, in consultation with his or her baccalaureate degree program adviser, may plan the course work to meet both objectives. A student who wishes to participate in the B.A./B.S.-M.B.A. program must make formal application by March 31 in the second semester of the junior year. To be eligible for consideration, the student must have at least a 4.0 cumulative grade-point average on the last 45 hours of course work completed, with at least 96 hours of course work completed by the beginning of the student's fourth year, and at least a score of 600 on the Graduate Management Admissions Test (GMAT).

## PREPROFESSIONAL HEALTH PROGRAMS

### PREPROFESSIONAL TRAINING

Because of the very large number of students interested in the health and associated health professions and the limited number of spaces in professional schools, the competition for admission to professional programs is great. Students interested in the health and associated health professions are directed into degree programs in the college so that they can make progress toward meeting requirements for bachelor's degrees at the same time that they complete course requirements for admission to the desired health and associated health professions. By doing this, a student who is not successful in gaining admission to a professional program may complete a degree program without prolonging study beyond eight semesters.

### ACADEMIC ADVISING

Since students who are interested in the health professions are expected to enter degree programs of their choice, their academic advising is provided by the departmental offices of the curricula or majors that they have selected. Generally, students interested in dentistry, veterinary medicine, and often medicine are advised to elect the biology general option in life sciences as their major. Students interested in medical records administration, nutrition and medical dietetics, occupational therapy, pharmacy, physical therapy, and professional nursing are advised to elect the general curriculum.

### PROFESSIONAL SCHOOL ADVISING

Advising for professional schools and career advising for dentistry, allopathic medicine, osteopathic medicine, optometry, and podiatry may be obtained from the Health Careers House, 901 West Illinois Street, Urbana, IL 61801. The office serves as a resource center for information concerning careers in the health professions listed above, provides personal and individual career counseling and guidance for students who are interested in those professions, and coordinates the visits of deans and admissions officers to this campus to interview prospective applicants and to acquaint students with the unique educational features of their institutions.

The office provides standard faculty evaluation forms to students who are planning to apply to professional schools in the health professions listed above. A student may request letters of evaluation from faculty members at any time during his or her college career. The office will maintain the letters in a confidential file and will duplicate and forward them, unedited, to the professional schools designated by the student.

Information on the UIUC dietetics program is on page 60 of this publication, or is available from the College of Agriculture Office of Academic Programs, 1301 West Gregory, Urbana, IL 61801.

Academic advising and advising about application to the University of Illinois at Chicago for medical laboratory sciences, medical record administration, nursing, nutrition and medical dietetics, occupational therapy, physical therapy, and pharmacy is available at the General Curriculum Advising Office, 912 South Fifth Street, Champaign, IL 61820. Information on nursing is also available at the College of Nursing, 408 South Goodwin Avenue, Urbana, IL 61801.

### TRANSFER CREDIT FROM PROFESSIONAL SCHOOLS

If a student has satisfied both college and major residence requirements, it is possible to transfer basic medical science credit satisfactorily completed at a fully accredited medical, dental, or veterinary medical school for courses acceptable to the major and to apply that credit to the requirements for the baccalaureate degree from the College of Liberal Arts and Sciences. The amount of transfer credit cannot exceed 30 semester hours, and duplication of courses completed on this campus will not be permitted. Credit will be counted only upon completion of one year's professional study.

A student planning to complete the baccalaureate degree requirements by attendance at a medical, dental, or veterinary medical school must obtain an evaluation of credit before attending that school. Because it is quite possible that less than the maximum amount of credit may be acceptable as transfer credit, it is essential that the

student consult the admissions and records officer in the college office as early as possible.

If there is any question about whether a course meets the criteria for acceptability or about the amount of credit to be granted, the student will be responsible for providing the necessary information upon which the head of the appropriate department (or his or her designate) on this campus will make a recommendation to the college regarding the acceptance of credit. Final determination of the credit will be made by the dean of the College of Liberal Arts and Sciences or his or her designate.

The prior agreement regarding transfer credit from professional schools must be included in the student's major contract form.

### PROFESSIONAL HEALTH PROGRAM REQUIREMENTS

All of the professional and associated health programs listed below are offered only at the Health Sciences Center at the University of Illinois at Chicago. Upon completion of preprofessional requirements, students apply to these programs in open competition with students from the University of Illinois at Urbana-Champaign and elsewhere. Because of the high level of competition, not all applicants are admitted. Students who are interested in these programs should familiarize themselves with similar programs, offered by other colleges and universities in Illinois and in other states, to which they may wish to apply.

### PREPROFESSIONAL REQUIREMENTS FOR DENTISTRY

Preprofessional training for dentistry is basically a three-year program, although 60 to 70 percent of the students who are admitted to dental schools have bachelor's degrees. It is highly advisable, therefore, to complete the requirements for admission to dental school in conjunction with fulfilling requirements for a bachelor's degree.

It is essential for students to know the specific requirements for admission to each of the dental schools to which they apply. These requirements are listed in *Admission Requirements of the American Dental Schools*, published by the American Association of Dental Schools, 1625 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Requirements of all U.S. and Canadian dental schools include: (1) All applicants take the Dental Admissions Test (DAT) as recommended and approved by the American Dental Association. For information concerning the test, write to the Division of Educational Measurements, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611. The application forms can also be obtained from the Health Careers House, 901 West Illinois Street, Urbana, IL 61801. (2) All applicants must submit faculty letters of evaluation (a folder should be opened in the Health Careers House). (3) An interview may be requested by the committee of admissions. The American Association of Dental Schools sponsors a centralized application service (AADSAS). Application request cards can be obtained from the Health Careers House, 901 West Illinois Street, or by writing to AADSAS, 1625 Massachusetts Avenue N.W., Suite 101, Washington, D.C. 20036.

Courses should include:

Composition I requirement: Two semesters. (recommended are SPCM 111 and 112; or RHET 105 or 108, and RHET 133)  
Mathematics (prerequisites for chemistry and physics): MATH 112 and 114  
CHEM 101, 102, 231 (formerly 131), and 234 (formerly 134); and CHEM 122 or 336, or BIOCH 350  
BIOL 120, 121, and 122  
PHYCS 101 and 102; or PHYCS 106, 107, and 108  
General education sequences in humanities and social sciences  
Electives (foreign language, MATH 120, social sciences, and humanities beyond the minimum requirements are strongly recommended)

### PREPROFESSIONAL REQUIREMENTS FOR MEDICINE

Although a few students are admitted to medical school after three years of preprofessional training, more than 95 percent of the students have bachelor's degrees. Therefore, students should pursue study in degree programs. There is no prescribed curriculum for premedical students. The majors in life sciences, chemistry, and biochemistry, and the curriculum in chemical engineering, are especially suitable since requirements in these curricula overlap to some extent with medical school requirements. Any major in psychology, the humanities, social



studies, or the fine arts is acceptable for medical school. Since students who are planning to apply to medical schools will need a number of science courses (even if they are majoring in nonscience areas), it is important that students elect mathematics during the first year since calculus is a prerequisite for some courses in chemistry, physics, and the life sciences.

Requirements of most American and Canadian medical schools include: (1) All applicants must take the Medical College Admission Test (MCAT) as recommended and approved by the Association of American Medical Colleges. The MCAT must be taken no later than October of the year prior to enrollment. For information concerning the test, write to Medical Colleges Test, American Testing Program, Box 414, 2255 North Dubuque Road, Iowa City, IA 52243. The application forms can also be obtained from the Health Careers House, University of Illinois at Urbana-Champaign, 901 West Illinois Street, Urbana, IL 61801. (2) All applicants must submit faculty letters of evaluation (folder should be opened in the Health Careers House). (3) An interview may be requested by the committee on admissions.

The American Association of Medical Schools sponsors a centralized application service, the American Medical College Application Service (AMCAS). Applications are available from AMCAS, Section for Student Services, Suite 301, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036-1989. Application request cards or applications can be obtained from the Health Careers House, 901 West Illinois Street, Urbana, IL 61801.

Students who anticipate careers in medicine are advised to obtain additional information from those medical schools in which they are interested. Specific admission requirements for individual medical schools are listed in *Medical School Admission Requirements*, published by the Association of American Medical Colleges, One Dupont Circle, N.W., Washington D.C. 20036.

1. A few medical schools do not require the MCAT.

## PREPROFESSIONAL REQUIREMENTS FOR NURSING

The University offers a degree program leading to the bachelor of science in nursing for students with two or more years of selected liberal arts and sciences courses and for registered nurses who meet a specific set of requirements. Students are eligible for admission to the College of Nursing upon successful completion of 60 semester hours of liberal arts and sciences courses that meet graduation requirements.

The program is made up of two phases: two preprofessional years in the College of Liberal Arts and Sciences at Urbana-Champaign or at any other accredited college or university, and the professional phase administered by the College of Nursing at the Health Sciences Center of the University of Illinois at Chicago. (A baccalaureate degree program for registered nurses is also offered on the Urbana-Champaign campus by the College of Nursing.)

Two general education sequences are required for graduation from the College of Nursing: one in the natural sciences, and one in either the social sciences or the humanities. The two required sequences allow students to become more thoroughly acquainted with two selected disciplines.

A sequence in the natural sciences consists of four courses: two lower-division courses and one upper-division course in one area of choice (e.g., chemistry or biology) plus one course (lower- or upper-division) in a different area.

A sequence in the social sciences or humanities consists of three courses: two courses in one area of choice (e.g., psychology or sociology), one of which must be upper-division, and an additional course (either lower- or upper-division) in a different area of the same discipline (e.g., in the social sciences if the other two courses were also in the social sciences).

The nursing courses required for the R.N.-B.S.N. program include thirteen required core courses (49 semester hours), one long-term component course (3 semester hours) one selected focus course (5 semester hours) and electives (3 semester hours). For registered nurse students, 28 semester hours of the nursing requirements may be met through validation of previous learning using National League for Nursing (NLN) examinations which must be completed prior to enrollment in nursing courses.

Admission to the professional phase is on recommendation of the admissions committee of the College of Nursing after completion of the following requirements with an overall grade-point average of 3.5

(A = 5.0) and a minimum grade of C in required courses:

Composition I requirement: RHET 105 or 108

General biology: 4 semester hours

Introductory statistics: 3 semester hours

Introduction to professional nursing: NUFC 210 (3 semester hours) to be taken in the sophomore year.

Other natural sciences, including organic chemistry and either anatomy and physiology or human biology: 16 semester hours

Social sciences, including optional sequence requirement: 9 semester hours

Humanities, including optional sequence requirement: 9 semester hours

Other liberal arts and sciences electives: to total 60 semester hours

For additional information about the programs in nursing, call the admissions officer, College of Nursing, (217) 333-2507.

## PREPROFESSIONAL REQUIREMENTS FOR PHARMACY

Preprofessional training for pharmacy is a two-year program. Minimum requirements for admission to the doctor of pharmacy degree program at the University of Illinois at Chicago are 61 semester hours, exclusive of physical education and military science, with at least a 3.5 (A = 5.0) grade-point average in the following:

Composition I requirement: RHET 105 or 108 and SP/COM 101, SP/COM 111 and 112; or E S L 114, 115 and SP/COM 101 and an additional composition or speech performance course to bring total to 8 semester hours

Mathematics: MATH 120

Chemistry: CHEM 101, 102, 231 (formerly 131), 234 (formerly 134); and 331 (336 is acceptable).

Biological sciences: BIOL 104, PLBI 100, CSB 234, and MCBI 100 (MCBI 101 is strongly recommended)

Electives: 20 hours, including at least one course in each of the following five categories: social/behavioral sciences; economics, finance, or accounting; fine arts (including art, music, or theatre); physical sciences (including physics, geology, or astronomy); humanities (including history, philosophy, or foreign language)

NOTE: Applicants must have completed all course work in English composition, mathematics, and science before entering the College of Pharmacy, University of Illinois at Chicago, Health Sciences Center.

## PREPROFESSIONAL REQUIREMENTS FOR VETERINARY MEDICINE

Students wishing to complete the preprofessional requirements for veterinary medicine in the College of Liberal Arts and Sciences may do so within a variety of curricula. However, courses required are equivalent to those recommended for students majoring in the life sciences. See page 137.

Because of the competition for admission, students should plan to complete bachelor's degree programs. Recently there were approximately three qualified applicants for each space available in the entering class in veterinary medicine. The mean grade-point average of admitted students was slightly above 4.5 (A = 5.0).

Specific information about veterinary medicine, including admission requirements, may be found beginning on page 167.

## PREPROFESSIONAL REQUIREMENTS FOR MEDICAL LABORATORY SCIENCES

Minimum requirements for admission include 60 semester hours, exclusive of physical education and military science, with at least a 3.0 (A = 5.0) grade-point average in the following:

Composition I requirement: RHET 105/108 or SP/COM 111-112

Mathematics: MATH 112 or equivalent (to fulfill prerequisite for chemistry)

Chemistry: 13 semester hours including: CHEM 101-102 (or 107-108 and 108-110), 231 (formerly 131), and 234 (formerly 134)

Biological sciences: 13 semester hours, including MCBI 100 and 101; or MICRO 200 and 201 or 101; PHYS 103 (recommended electives: BIOL 100, 104 or 101; BIOL 120, 121, 122)

Humanities: 6 semester hours

Social Sciences: 6 semester hours

Medical Terminology: one course (OFC 154 usually taken at Parkland College)

Electives: To complete a total of 60 semester hours (recommended are genetics, cell biology, anatomy, electronics, statistics, education, additional rhetoric)

**NOTE:** If a student must delay enrolling in CHEM 101 until the spring semester of the freshman year, attendance in summer school will be necessary to complete chemistry and biology in two years.

### PREPROFESSIONAL REQUIREMENTS FOR HEALTH INFORMATION MANAGEMENT

Minimum requirements for admission are 60 semester hours, exclusive of physical education and military science, with at least a 3.0 (A = 5.0) grade-point average in the following:

Composition I requirement: RHET 105/108 or SPCOM 111-112; and RHET 133 or 143

Biological science: PHYS 103, CSB 234, and two additional courses: (recommended courses are BIOL 100, 104 or 101; BIOL 120, 121, 122)

Mathematics: MATH 112 (prerequisite for statistics course).

Statistics: One course (e.g., SOC 185, PSYCH 235, ECON 171, MATH 161, or STAT 100)

Humanities: 6 semester hours

Social sciences: 6 semester hours

Electives: To complete minimum total of 60 semester hours

### PREPROFESSIONAL REQUIREMENTS FOR NUTRITION AND MEDICAL DIETETICS

Minimum requirements for admission are 60 semester hours, exclusive of physical education and military science, with at least a 3.5 (A = 5.0) grade-point average in the following:

Composition I requirement: RHET 105/108 and SPCOM 101; or SPCOM 111 and 112

Biological sciences: MICRO 100 and 101 (lab) or MICRO 200 and 201 (lab); one additional course (recommended choices: PHYS 103; BIOL 101; BIOL 104)

Chemistry: CHEM 101 and 102; CHEM 231 (formerly 131), and 234 (formerly 134) lab

Mathematics: MATH 112 (prerequisite for chemistry).

Statistics: One course: (e.g., SOC 185, PSYCH 235, MATH 161, or STAT 100)

Foods and nutrition: FN 120, FN 130, FN 131

Psychology: PSYCH 100 or 105

Humanities: Two courses, preferably one in literature

Anthropology or sociology: Two courses (recommended are: ANTH 103; SOC 100)

Electives: To complete minimum total of 60 semester hours.

**NOTE:** If a student must delay enrolling in CHEM 101 until the spring semester of the freshman year, attendance in summer school will be necessary to complete chemistry and biology requirements in two years.

### PREPROFESSIONAL REQUIREMENTS FOR OCCUPATIONAL THERAPY

Preprofessional course work for occupational therapy generally is a two-year program. Minimum requirements for admission are 60 semester hours with at least a 3.5 (A = 5.0) grade-point average including the following courses:

Composition I requirement: RHET 105/108; or SPCOM 111-112 and RHET 133 or 143.

Human physiology: PHYS 103

Human anatomy: CSB 234

Statistics: One course (e.g., SOC 185, PSYCH 235, MATH 161, STAT 100)

Mathematics: MATH 112 (prerequisite for statistics)

Social sciences: Three courses: SOC 100, and any two courses in a social science (excluding psychology)

Psychology: PSYCH 100, PSYCH 238, PSYCH 216 (HDFS 105 may be substituted), and one additional elective in psychology

Manual arts: Two courses in woodworking, sculpture, jewelry mak-

ing, weaving, print making, or paper making (e.g., ART&D 150, ARTCR 160, ARTCR 170)

Medical terminology: One course (OFC 154 usually taken at Parkland College)

Humanities: 6 semester hours

Physical or biological science: Two courses

Electives: To complete the required 60 semester hours

**NOTE:** Current certification in cardiopulmonary resuscitation (CPR) is required upon entrance into the professional program. At least 40 hours experience in an occupational therapy department is required before application.

### PREPROFESSIONAL REQUIREMENTS FOR PHYSICAL THERAPY

Preprofessional training for physical therapy is a two-year program. Minimum requirements for admission are 60 semester hours, exclusive of military service, with at least a 3.5 (A = 5.0) grade-point average in the following:

Composition I requirement: RHET 105/108 or SPCOM 111-112; and RHET 133 or 143

Mathematics: MATH 120

Chemistry: CHEM 101 and 102

Biological sciences: BIOL 121, 122; CSB 234

Social science: PSYCH 100; and one social science course other than psychology

Physics: PHYS 101 and 102

Humanities: Total of 6 semester hours from two different departments  
Electives to complete a total of 60 semester hours (recommended are anthropology, human anatomy and physiology, health and safety studies, additional psychology, and sociology)

Additional Requirements:

1. GRE scores forwarded from the Educational Testing Service;
2. 45 hours of clinical experience (15 hours at 3 different sites and with a registered physical therapist). This experience can be volunteer, paid, or observation (there are clinical experience reference forms).

#### NOTES:

—A current or up-to-date Red Cross First Aid and CPR card also will be required prior to enrollment.

—If a student must delay enrolling in CHEM 101 until the second semester of the freshman year, attendance in summer school will be necessary to complete chemistry and biology requirements in two years.

## COLLEGE OF VETERINARY MEDICINE

2271G Veterinary Medicine Basic Sciences Building  
2001 South Lincoln Avenue  
Urbana, IL 61801  
(217) 333-2760

The College of Veterinary Medicine educates men and women in medical disciplines involving the animal kingdom. The four-year professional curriculum leads to the degree of doctor of veterinary medicine. The program gives students a broad foundation in the biological and physical sciences and practical knowledge in the application of these principles to the prevention, control, and eradication of animal diseases. The college also strives to emphasize the profession's obligation to society.

Veterinary medicine offers an unlimited variety of intellectual and scientific challenges. Most veterinarians engage in specialized animal practice. Many others are involved in public health activities, which include controlling and eradicating diseases, ensuring the wholesomeness of food products, developing and producing biological products and drugs, and enforcing health regulations for transported animals. Still other veterinarians engage in teaching and research.

Students receive the benefit of an instructional program constantly enriched by the latest advances in veterinary medicine. The first two years are devoted largely to basic veterinary medical subjects; the final two years consist chiefly of instruction in applied clinical subjects such as medicine, surgery, and obstetrics. Most of fourth-year instruction

is in clinic and laboratory areas, enabling students to apply knowledge gained in classroom work to the diagnosis, prevention, treatment, suppression, and eradication of disease.

The college is affiliated with the Agricultural Experiment Station and the Cooperative Extension Service and is a component of the Graduate College. It cooperates with the Illinois Departments of Agriculture, Public Health, and Conservation and with the State Natural History Survey on various projects.

### Preprofessional Course Requirements

**For a student with a B.S. or B.A. degree from an accredited college or university at the time of admission:** The only specific course requirements are those in biological science, chemistry, and physics as listed below. The preprofessional program must be completed at an accredited college or university. The courses in biology, chemistry, and physics are to be equivalent in content to those recommended for students majoring in biological sciences. It is strongly recommended that the science courses be taken on a graded basis.

**Biological sciences:** Two semesters (8 semester hours) or the equivalent of college-level course work in biological sciences with appropriate laboratory experience. These courses should emphasize the cellular, molecular, and genetic aspects, as well as the structure and function, of living organisms.

**Chemistry:** Four semesters (16 semester hours) or the equivalent of college-level course work in chemistry, including courses in organic chemistry and biochemistry. Laboratory work and familiarity with quantitative techniques are important aspects of this experience. To be acceptable, the biochemistry course must be at least 3 semester hours or 4 quarter hours and should have organic chemistry as a prerequisite.

**Physics:** Two semesters (8 semester hours) or the equivalent of college-level course work in physics with appropriate laboratory experience. These courses should include mechanics, heat, light, sound, electricity, and magnetism.

**For a student without a bachelor's degree at the time of admission:** At least 40 semester hours of science courses including the biology, chemistry, and physics requirements listed above are required.

**English:** One semester (3 semester hours) or the equivalent of college-level course work in English composition, and an additional one semester (3 semester hours) of English composition and/or speech.

**Humanities and social sciences:** Four semesters (12 semester hours) or the equivalent of college-level course work in the humanities and/or social sciences.

**Electives:** Twelve semester hours of junior- and senior-level courses in addition to the requirements above.

Preprofessional course requirements can be completed at most collegiate institutions. Students wishing to complete preprofessional requirements on the Urbana-Champaign campus of the University of Illinois may do so within a variety of curricula in either the College of Agriculture or the College of Liberal Arts and Sciences. Information regarding admission requirements for preprofessional programs offered on the Urbana-Champaign campus may be obtained by writing to the Office of Admissions and Records, University of Illinois at Urbana-Champaign, 10 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801.

The Admissions Committee of the College of Veterinary Medicine will consider an application only if the applicant presents a minimum cumulative grade-point average of 3.75 ( $A = 5.0$ ) and a 3.75 science GPA at the end of the fall term preceding the desired date of admission. The applicant must also complete the preprofessional course requirements by the date of desired admission and maintain a minimum cumulative grade-point average of 3.75 ( $A = 5.0$ ).

### Admission

#### DATA

Completion of the minimum academic requirements does not guarantee admission to the professional curriculum. Because of limited facilities and the amount of support available to the College of Veterinary Medicine, the number of students who enter the professional curriculum each year must be restricted. Recently, there have

been approximately three qualified applicants for each place available in the entering class. The mean grade-point average of the applicants selected has been about 4.4 ( $A = 5.0$ ), and the mean number of preprofessional hours completed has been near 120 semester hours. This level of competition is expected to continue. Most applicants who are admitted have a considerable amount of experience with and exposure to animals and the veterinary profession, as well as records of strong participation in community and extracurricular activities.

### APPLICATION PROCEDURE

Application materials for the professional curriculum are available from the Office of Admissions and Records, University of Illinois at Urbana-Champaign, 10 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801, between September 1 and December 1. No application materials will be mailed after November 15. (New students enter the College of Veterinary Medicine in the fall only.)

All items submitted by the applicant (application form, fee, self-evaluation form, courses to be completed form) must be received in the Office of Admissions and Records by 5:00 p.m. December 1. Letters of evaluation are also due December 1. All other required supporting credentials, such as transcripts and Veterinary College Admission Test (VCAT) results, must be received by February 1 for the application to be complete and the applicant considered for admission. Final grades for the fall term prior to enrollment must be on the transcript submitted for the February 1 credentials deadline, or consideration will be terminated. The application must be accompanied by a non-refundable application fee of \$30, which is used partially to cover the cost of processing the application for presentation to the Admissions Committee.

An optional early notification deadline is available only for out-of-state students who have completed 60 or more semester hours by the end of the summer preceding application. All components of the application must be received in the Office of Admissions and Records by November 1.

Requests for additional information should be directed to the Office of Admissions and Records by mail, by telephone at (217) 333-0302, or by visiting the office at 177 Henry Administration Building. The office is open from 8:30 a.m. to noon and from 1:00 to 4:30 p.m. Monday through Friday. Appointments are recommended.

### SELECTION CRITERIA

#### (Subject to Change)

Because of the size and quality of the applicant pool, only a few highly qualified applicants have been admitted with the minimum of 60 hours in recent years. Therefore, all students are urged to structure their programs to qualify for a bachelor's degree within the normal four-year period.

In addition to submitting official transcripts of all collegiate work attempted, applicants must also provide official scores from the Veterinary College Admission Test (VCAT). These scores will be sent to the Office of Admissions and Records from the private organization administering the examination: Psychological Corporation, 555 Academic Court, San Antonio, TX, 78204. The examination is offered at various locations nationwide during the fall and winter each year. Information on arranging to take the examinations is available in the application packet for the College of Veterinary Medicine.

Letters of evaluation are required from three persons who can evaluate the applicant's experience and ability relating to professional and scientific study. Two letters should be from college instructors or academic advisers. A letter from someone who can attest to the applicant's interest in veterinary medicine is highly desirable. A student who is currently enrolled in graduate school must include with the application a letter from the student's graduate adviser delineating current status in graduate school and the likely completion date of the graduate program.

Applicants are expected to demonstrate potential for contribution to and advancement of the profession. An interview may be required by the committee as a means of supplementing information obtained from the materials submitted.

Preference is given to residents of Illinois. Nonresidents with superior qualifications may be admitted. A very limited number of highly qualified foreign students may also be admitted.

The professional program of the College of Veterinary Medicine is accessible to qualified persons, and such persons will not be denied admission on the basis of disability. A qualified person is one who meets the academic and technical standards requisite to admission



and participation in the educational program of the college. During their course of study, students treat animal patients while under the supervision of veterinary faculty members. Such clinical duties may not be waived since they are an essential part of the educational program. The technical standards of the college (as well as the veterinary medical profession) require that the safety of both animal patients and veterinary students be protected. The student will not cause a health or safety hazard to the animal patients or to other persons.

### POINT RANKING SYSTEM

#### (Subject to Change)

Applicants are currently ranked on the basis of a 100-point scale, with the allocation of points distributed among the following criteria:

### OBJECTIVE MEASURES OF ACADEMIC PERFORMANCE

Seventy points—from grade-point averages determined from official college transcripts and from Veterinary College Admission Test (VCAT) results. The cumulative grade-point average, science grade-point average, and total number of graded science hours completed, in addition to the scores earned on the VCAT will most likely be used to allocate these points. (If a standardized test is taken more than once, the highest of the two most recent test scores will be used. The VCAT scores must be for tests taken during the current or preceding year's application period.) A limit of 60 hours has been imposed in the graded science hours category.

### SUBJECTIVE MEASURES-PERSONAL

Thirty points—allocated by the Admissions Committee on the basis of information submitted with the application and letters of recommendation indicating the applicant's knowledge of, motivation toward, and experience with the veterinary profession; evidence of leadership, initiative, and responsibility; animal contact and experience; and extracurricular factors influencing personal growth.

### BONUS POINTS

As many as eight bonus points may be given to applicants for ancillary factors that have influenced academic performance; consistently heavy course loads; the quality of courses or course sequences; and significant improvement after a "poor start." Bonus points are recalculated each year for applicants who reapply.

### Costs

The estimated tuition and fees for a student enrolled in a full or partial academic program are shown on pages 20 and 22. Each entering first-year veterinary student must provide a microscope for his or her own classroom use before the semester begins. Minimum specifications for these microscopes are established by the college and will be provided to the student upon notification of admission. This represents a recoverable investment of about \$1,000 or more.

### Honors Programs

For information about the Campus Honors Program and the Dean's List, see pages 31 and 40.

### HONORS AT GRADUATION

Honors are awarded to superior students in the professional curriculum. For graduation with honors, a student must have a grade-point average of not less than 4.35 ( $A = 5.0$ ) in all courses completed in the College of Veterinary Medicine; for graduation with high honors, a grade-point average of not less than 4.75 is required.

### Graduation Requirements

A student who has fulfilled the general education course requirements, has passed all courses in the first two years of the veterinary medicine curriculum, and has a cumulative grade-point average of 3.0 ( $A = 5.0$ ) or better in these courses is eligible for the degree of bachelor of science in veterinary medicine.

A student who has passed all courses prescribed in the four-year veterinary medicine curriculum and who has a cumulative grade-point average of 3.0 ( $A = 5.0$ ) or better in these courses is eligible for the degree of doctor of veterinary medicine.

## CURRICULUM

(Subject to Change)

For the Degree of Doctor of Veterinary Medicine

### First year<sup>1</sup>

CREDIT HOURS	CLOCK HOURS	FIRST SEMESTER
3	4	ANSCI 325—Principles of Animal Nutrition
5	11	V B 300—Gross Anatomy, I
5	9	V B 301—Histology
2	2	V B 305—Developmental Anatomy
1	1	VP 330—Veterinary Medical History, Ethics, and Orientation
2	7	VP 332—Veterinary Immunology
2	7	VP 337—Veterinary Virology
20	34	Total
4	10	SECOND SEMESTER
3	5	V B 302—Gross Anatomy, II
4	6	V B 310—Neurobiology
1	1	V B 315—Physiology, I
4	7	V C M 378—Veterinary Clinical Orientation
1-2	variable	VP 331—Veterinary Bacteriology and Mycology
18-19	approx 28	Electives <sup>1</sup>
16	29	Total (core)

### Second year

CREDIT HOURS	CLOCK HOURS	FIRST SEMESTER
4	4	V B 316—Physiology, II
1	3	V B 317—Physiology/Pharmacology Laboratory
2	2	V B 318—Pharmacology, I
1	2	V C M 372—Veterinary Jurisprudence
5	7	VP 333—Veterinary Parasitology
4	7	VP 334—General Pathology
2	2	VP 350—Epidemiology
1-2	variable	Electives <sup>1</sup>
20-21	approx 29	Total
19	27	(core)
3	3	SECOND SEMESTER
2	5	V B 319—Pharmacology, II
3	5	V C M 330—Companion Animal Medicine, I
4	8	V C M 331—Companion Animal Medicine, II
4	4	VP 335—Special Pathology
2	2	VP 338—Veterinary Clinical Pathology
1	2	VP 341—Food Hygiene and Public Health
19	28	Electives <sup>1</sup>
18	22	Total (core)

### Third year

CREDIT HOURS	CLOCK HOURS	FIRST SEMESTER
2	2	V B 320—Toxicology
3	5	V C M 332—Companion Animal Medicine, III
2	5	V C M 333—Companion Animal Medicine, IV
1	7*	V C M 351—Introduction to Surgery
1.5	7*	V C M 352—General Small Animal Surgery
1.5	7*	V C M 353—General Large Animal Surgery
2	10	V C M 362—Clinical and Laboratory Practice
4	6	V C M 375—Theriogenology
2	2	V C M 376—Veterinary Anesthesiology and Fluid Therapy
19	32	Total (core)
2	4*	SECOND SEMESTER
1	4*	V B 324—Large Animal Nutrition AND/OR
5	5	V B 326—Small Animal Nutrition
2.5	6	V C M 334—Food Animal Medicine
2.5	6	V C M 354—Small Animal Surgery
2	2	V C M 355—Large Animal Surgery
3	4	V C M 366—Clinical Laboratory Practice
2	2	V C M 367—Radiology and Radiobiology
18-20	26-28	VP 343—Diseases of Poultry
		Total

<sup>1</sup>Clock hours per week are calculated for maximum hours in a given week; however, course does not meet for maximum hours during the entire semester.

*Fourth year*

CREDIT HOURS	CLOCK HOURS	UNIT I (Thirty Weeks) <sup>1</sup>
25	40	V C M 369—Clinical and Laboratory Practice <sup>4</sup>
4-7	variable	Electives <sup>3</sup>
<b>UNIT II (Nine Weeks)</b>		
5	40	V C M 369—Clinical and Laboratory Practice <sup>4</sup>
1-3	variable	Electives <sup>3</sup>
30-40	variable	Total

1. Only students who have been accepted for admission to the professional curriculum are eligible to begin the first year's work in the College of Veterinary Medicine.

2. Duration of the course is part of a semester.

3. A total of 153 credit hours is required for graduation. Elective courses (12 or 13 credit hours) from a list designated by the College of Veterinary Medicine must be selected to supplement required course credits (140 or 141 credit hours).

4. Assignments outside of regularly scheduled clinic hours are made and must be adhered to by the students involved.

5. Unit I consists of seven six-week sections, the student will enroll for five of the seven sections. The other twelve weeks may be used for vacation time, for a voluntary externship with a veterinary practitioner, for a research or teaching experience, or for any other use of the student's choice.



**GRADUATE**

**programs**



## GRADUATE STUDIES

The University of Illinois at Urbana-Champaign is a leading center for graduate education in the nation. A distinguished graduate faculty of approximately 2,200 members supervises and guides graduate students in research, scholarship, and teaching.

The University is the home of numerous national centers conducting research across many disciplines, including supercomputing, engineering, education, genetics, and the arts.

The Graduate College is an administrative unit that has jurisdiction over all programs leading to advanced degrees. The Graduate College develops and safeguards standards of graduate work and promotes and assists research by faculty members and graduate students in all fields.

### Graduate Degrees

The University of Illinois at Urbana-Champaign enrolls approximately 9,000 graduate students and offers advanced degrees in more than 100 fields of study. In addition to the M.A. or M.S. and Ph.D. degrees offered in many disciplines, a number of departments offer work leading to other graduate degrees. Among these are master's and doctoral degrees in professional and performing arts fields and various master's degrees in teaching.

Descriptions of these degrees are given in the appropriate departmental sections of this Graduate Programs catalog. More detailed descriptions of graduate programs and the requirements for the degrees may be obtained from the individual departments.

### ADMISSION AND REGISTRATION

#### GENERAL REQUIREMENTS

Applicants who have graduated from an accredited college or university, or who hold or will be granted by the end of the current academic year a baccalaureate degree (or its equivalent) comparable in content and in number of credit hours to that granted by the University of Illinois at Urbana-Champaign, may apply for admission to the Graduate College of UIUC. Applicants must have an admission average of at least 4.0 (A = 5.0) computed from the last 60 hours of undergraduate work and any graduate work completed. Meeting these minimum admission requirements of the Graduate College, however, does not guarantee admission; individual departments may set a minimum grade-point average higher than that of the Graduate College and may impose other special admission requirements and conditions. Because applicants to most departments compete for a limited number of positions, many who exceed minimum requirements may be denied admission.

Applicants for admission to the Graduate College with undergraduate academic records showing "pass," "satisfactory," "credit," or other similar entries in advanced courses that have a bearing on the student's field of specialization should submit a written evaluation or a letter grade by the instructor in each such course, along with scores on the Graduate Record Examination. Because some departments have special examination requirements, applicants should check with their prospective departments; for example, the Departments of Accountancy and Business Administration use the Graduate Management Admission Test instead of the Graduate Record Examination.

Prospective students are urged to apply for admission as early as possible, preferably in November or December for the summer session and fall semester, and September or October for the spring semester. Applications may not be accepted during the three weeks preceding the beginning of a term.

Application forms for U.S. students may be obtained from the major department or the Graduate College, University of Illinois at Urbana-Champaign, 202 Coble Hall, 801 South Wright Street, Champaign, IL 61820. Application forms for international students may be obtained by writing to the Office of Admissions and Records, University of Illinois at Urbana-Champaign, 10 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801. A nonrefundable application fee must accompany the application. International applicants must submit official records of all higher education, including certificates of degrees with the dates the degrees were conferred. If only one original is available and would be difficult to replace, an attested or certified copy should be submitted. All records not in English must be accompanied by a translated record. Records should

show the individual subjects studied and the grades received in each subject.

International applicants are required to submit proof of adequate finances for the entire period of planned study. Applicants unable to provide satisfactory evidence of adequate finances will not be granted admission.

Eligible applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL), given several times a year throughout the world. Applicants should make arrangements directly with the TOEFL Application Office, P.O. Box 6155, Princeton, NJ 08541-6155, U.S.A. Graduate applicants are exempt from this testing if, within five years of the proposed date of enrollment at UIUC, they have completed at least two academic years of full-time study in a country where English is the primary language and in a school where English is the primary language of instruction.

The University requires a score of at least 550 on the TOEFL examination, and some departments require higher scores. All non-native English-speaking applicants to the Graduate College who are admitted on the basis of their academic credentials but score below 607 on the TOEFL or fail to submit a required TOEFL score will be admitted on limited status and will be required to take the English Placement Test (EPT) upon their arrival.

#### THE NOTICE OF ADMISSION

The Notice of Admission is issued by the Office of Admissions and Records to applicants when their admission to the University is complete, i.e., when they have been recommended for admission by the department and have been determined to be eligible by the Office of Admissions and Records. The Notice of Admission is official verification that admission has been approved; it is issued for a specific term and should be brought to the initial registration.

A department may request, on an applicant's behalf, that an applicant admitted for a particular term be allowed to enter in a different term without having to repeat the application process. These requests for change of term of entry are granted only if the new term of entry is within one year of the term originally set. Applicants should note that a Notice of Admission for the fall term is also valid for the preceding summer session, and that one issued for the summer session, if not marked "summers only," is also valid for the following fall semester.

The Notice of Admission will specify the admission status of the student: whether the admission is as a degree candidate or as a nondegree student, whether full graduate standing or limited status has been approved, and whether additional credentials are still needed. Each admitted student must submit complete academic credentials to the Office of Admissions and Records before the registration period for the student's second term of attendance. Registration for the second term will be encumbered if the required official transcripts have not been received.

The Notice of Admission may state specific conditions for admission. Admitted students should have a clear understanding of the conditions or should seek clarification from their major departments. A student may be admitted on limited status if his or her preadmission grade-point average (GPA), which is based on the last 60 semester hours of undergraduate work, is below the Graduate College minimum of 4.0 (A = 5.0), or if the academic record shows other deficiencies or nontraditional academic qualifications. After the student has satisfied the conditions imposed, his or her major department should request that the Graduate College change the student from limited status to full graduate standing. No advanced degree will be awarded to a student who has not qualified for, and been granted, full graduate standing.

#### ENROLLMENT PATTERNS

Each student admitted can choose one of two enrollment patterns: continuous, in which the student must enroll each fall and spring semester, with summer sessions optional; or consecutive summers only, in which the student enrolls only for summer sessions.

#### NONDEGREE STATUS

Students with nondegree status are admitted to courses on a part-time basis if there is enough space. Once accepted for admission by a department and the Graduate College, a nondegree student has the same enrollment pattern options as a degree candidate. Either the major department or the Graduate College, however, may discontinue the nondegree status at the end of any term. A student need not

apply each semester for readmission as a nondegree student as long as he or she maintains one of the established patterns of enrollment.

Several restrictions and conditions apply to nondegree status.

Nondegree students:

- Are not eligible to advance enroll.
- Cannot register until after the third day of classes in the fall or spring semester. The late registration fee will be waived if the student completes his or her registration on or before the tenth day of instruction in a semester.
- Are required to have approval each term from both their home department and the department offering the course in which they wish to enroll. Admission does not guarantee, therefore, that the student will be able to enroll in all courses desired.
- Are limited to taking fewer than 3 units per semester. A nondegree student will not be granted full-time status unless he or she is participating in a special program for which full-time approval has been obtained from the Graduate College prior to admission.
- Are not eligible for financial aid (fellowships, assistantships) administered by the Graduate College.
- Must apply for admission if they wish to become candidates for a degree. If the student is later approved for degree status, a maximum of 3 units of nondegree credit may be applied to a degree.

A nondegree student who wishes to enroll only during the summer sessions need not be admitted by a specific department but may carry an unassigned student status with the Graduate College. Certification of an earned degree is all that is required for admission. Such a student is allowed to register continuously from summer to summer until his or her pattern of enrollment is broken.

## REGISTRATION

U of I Direct is the system that allows students to register for courses by computer. Students who register for courses agree to pay tuition and fees to the University according to the payment policies and schedules adopted by the Board of Trustees. If a student wishes to cancel registration, and thus avoid payment of tuition and fee charges, the student must do so by 5:00 p.m. of the first day of instruction.

Unauthorized use of University of Illinois computerized systems, data, or resources; unauthorized use of another individual's identification, account or password; or an attempt to gain unauthorized access is prohibited by University policy and may constitute a violation of Illinois state law.

Because course descriptions found in the *Courses* catalog are not intended to be complete, students should check with their department's graduate studies office or talk with instructors involved to find out about reading lists, papers, projects, and examinations for particular classes.

## IMMUNIZATION REQUIREMENTS

Each student entering the University is required to present evidence of immunization against certain vaccine-preventable diseases as defined by state law and required by University regulations. Admitted applicants will receive a Medical History form and a Health Information form, which should be returned to McKinley Health Center. Students who fail to return the completed Health Information form by the date shown on the form and who fail to comply may be prohibited from registration until the requirement is met. This requirement applies to students entering the University for the first time, to transfer students, and also to those enrolling in a new graduate program who may be new to the University.

## TUBERCULOSIS CONTROL

All new international students are required to complete tuberculosis screening at McKinley Health Center before finishing registration. Evidence of freedom from tuberculosis is established by undergoing a tuberculin skin test at the McKinley Health Center that is read negatively at the Health Center within forty-eight to seventy-two hours later.

## TUITION AND FEES

Tuition and fees are assessed on the basis of a student's status (resident or nonresident of Illinois), graduate program, as well as the number of credit hours taken each term. In computing fees, 1 unit is equivalent to 4 semester hours. A complete schedule of current tuition and fees

and an explanation of the eligibility requirements for full or partial exemption are available from the Registration Services Office, University of Illinois at Urbana-Champaign, Window 25, 100 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801.

## RESIDENCE FOR TUITION ASSESSMENT

Tuition is assessed in part on the basis of whether a student is a resident or nonresident of the state of Illinois in accordance with the *University of Illinois Regulations Governing the Determination of Residence for Admissions and Assessment of Student Tuition*. These regulations are published in the *Code on Campus Affairs and Handbook of Policies and Regulations Applying to All Students*. The Code is offered to all students during registration and is available at the Registration Service Center in the Illini Union; in 177 Henry Administration Building; and at the Student Assistance Center, 107 Turner Student Services Building. The residence regulations and petitions for changing a student's status are available on request from the Registration Services Office, University of Illinois at Urbana-Champaign, Window 25, 100 Henry Administration Building, 506 South Wright Street, Urbana, IL 61801.

Generally, in order to be considered a resident for the assessment of tuition, a person must have been a *bona fide* resident of the state of Illinois for at least six consecutive months immediately preceding the beginning of any term for which he or she registers and must continue to maintain a *bona fide* residence in Illinois. If an adult student has at least one parent who is a *bona fide* resident of Illinois, this six-month, continuous-residence rule is waived as long as the student resides in Illinois during the period of registration at the University.

Staff members of the University and allied agencies, including teaching and research assistants on appointment for at least 25 percent of full-time services for not less than three-fourths of the term as well as their spouses and dependent children, are treated as residents for tuition assessment purposes as long as they hold their appointments. Professional staff members and teachers in private or public elementary and secondary schools in Illinois are also eligible for in-state tuition charges. Persons who are serving on active duty in one of the armed forces of the United States and who are stationed and present in the state of Illinois, their spouses, and their dependent children may qualify upon petition for the in-state tuition rate. A student who is a U.S. citizen may also qualify upon petition for resident status if he or she is married to a resident of Illinois who meets all the requirements of the residence regulations. A non-U.S. citizen who meets and complies with all other applicable requirements may establish residence status (by petition) unless he or she holds a visa that on its face precludes an intent to reside in the United States.

## INSTALLMENT PLAN FOR PAYMENT OF CHARGES

Students enrolled on campus may elect to pay tuition and all fees, flight instruction costs, and University residence hall charges (single-student housing only) in three approximately equal installments. The first installment is payable by the due date shown on the Post-Registration Statement (within the first ten days of classes), the second is payable in October (March for spring semester), and the third in November (April for spring semester).

Students electing the installment plan are assessed a finance charge. Deferred installments and other charges billed through the student accounts-receivable system are subject to a delinquent service charge on any amounts not paid when due.

## REFUNDS

### CANCELLATION OF REGISTRATION

Individuals who have placed courses on their record prior to the beginning of the term and later decide not to attend the University may cancel their registration by 5:00 p.m. of the first day of instruction for the term and avoid all tuition and fee charges. Individuals who are ineligible to continue in the University for actions initiated by the University based on academic, disciplinary, or medical reasons before 5:00 p.m. on the first day of instruction for the term have their registrations become void and are not entitled to student privileges.

Students may not cancel their registration once they have used fee-supported services. If they leave the University, they must officially withdraw from the University.

### WITHDRAWAL FROM THE UNIVERSITY

Students who have been charged tuition and/or fees and later withdraw from the University prior to the completion of 60 percent of the term receive a refund on a pro rata basis. Assessed tuition, the service fee, the general fee, and the transportation fee are refunded on a pro

ratio basis less 5 percent of the assessed amount or \$100, whichever is less. The health insurance and health services fees are nonrefundable. Students continue to be covered by health insurance and are eligible to receive health services (if these fees were paid) until the first day of instruction for the following term.

Before a refund is made to the student, the University must make a refund to appropriate financial aid programs providing assistance to the student. A student indebted to the University at the time of withdrawal will have the amount owed deducted from the amount of any refund available.

Students permitted to pay tuition and fees on the installment plan, or who make no payment at all, and then withdraw from the University are liable for the full amount of tuition and fees originally assessed less applicable refunds.

Special refund policies apply to those who withdraw to enter either active duty in the armed forces or other approved national defense service.

## FINANCIAL AID

Financial aid is available in the form of fellowships, teaching and research assistantships, tuition and service fee waivers, college work-study programs, and loans.

### APPLICATION PROCEDURES

All students who apply for admission to graduate study receive consideration for fellowships (except those awarded in national competitions), teaching and research assistantships, and tuition and service fee waivers; there are no separate financial aid applications for applicants. Currently enrolled students seeking consideration for these awards should submit the Application for Graduate Appointment, available from departments or the Graduate College, to their major departments. Financial need is not a factor in awarding fellowships, waivers, or assistantships administered by the University.

Continuing or new students should file the appropriate application, whether for admission or graduate appointment, with their major department no later than February 1, and preferably earlier. (Some departments in high demand have deadlines earlier than February 1; prospective students are advised to make sure of the departmental deadline before applying.) While departments may, at their discretion, accept applications after the February 1 deadline, most departments attempt to make their financial aid decisions in February and March; thus, applications arriving later may not receive financial aid consideration. Departmental committees recommend students for fellowships or waivers to the Graduate College, which makes the final selections. Each department appoints its own teaching or research assistants with the approval of the Office of Academic Human Resources. Fellowships can be awarded only to students who are enrolled in or have applied for admission to the Graduate College as degree candidates. The first list of fellowship awards is usually announced in mid-March.

### FELLOWSHIPS

The Graduate College Fellowship Board has the responsibility for establishing and maintaining policies regarding fellowships funded by the Graduate College as well as awarding fellowships. Departments nominate students for one of the programs described below, and the Board awards at its discretion.

**University Fellowships.** University fellowships are awarded on the basis of academic and scholarly achievement. Each department sets its own stipend level, and may supplement the fellowship with a teaching or research assistantship. Students should consult their departments about available support.

**UIUC Fellowships.** UIUC fellowships are a signal honor, as they are very limited in number and are awarded to students whose academic records reveal only the highest scholarly achievement. Graduate departments may nominate incoming students in every field for the fellowships which provide a stipend of \$15,000 per year and a tuition waiver, and may be renewed for an additional two years, pending satisfactory progress in the fellow's academic program.

**Graduate College Fellowships.** These fellowships are part of the Graduate College's effort to increase the enrollment of students from certain underrepresented and disadvantaged groups. Graduate College fellowships are generally awarded to students who are beginning graduate work so that they can devote their first year entirely to study.

Most Graduate College fellows are given support in the form of other fellowships and assistantships to continue their studies in subsequent years, provided their progress is satisfactory; however, continued support cannot be guaranteed in advance. Graduate College permission is required for concurrent employment of any type.

**Dissertation Travel Grants.** In some disciplines, students may experience delays in selecting a research topic or in completing their Ph.D. dissertation because they lack the discretionary funds to consult sources that lie in other parts of the country or abroad. The dissertation travel grants are designed to assist Ph.D. students whose dissertations would benefit substantially from domestic or foreign travel. Both travel for purposes of identifying a thesis topic and travel for completing dissertation research are within the scope of this program. Grants will vary in amount, but the maximum award is \$5,000.

**Dissertation Completion Fellowships.** These fellowships are intended for the top-flight doctoral students who have passed the preliminary examination but, because of financial limitations, are unable to work full-time toward their degree. The fellowships provide \$15,000 and a tuition waiver for one year to enable students to spend full time writing their dissertations. It is expected that the dissertation fellows will graduate by the end of the fellowship year.

**Industrial, Endowed, and Special Fellowships and Traineeships.** A number of firms, foundations, and individuals support fellowship awards for graduate students. The stipends and supplemental allowances for these fellowships vary, and most of them are restricted to students in particular areas of study. In almost all cases, these awards provide tuition and most fees. Students should consult their departments about the availability of these fellowships.

**Federal Fellowships.** These fellowships, such as the U.S. Public Health Service traineeships in the biomedical sciences and the Patricia Roberts Harris fellowships in fields where minorities are underrepresented, are awarded as grants to institutions, which then select the recipients. Students should consult their departments as to the availability of these awards. Applicants for most federal fellowships must be U.S. citizens or permanent resident aliens; some programs are restricted to U.S. citizens.

**Fellowships Awarded in National Competition.** The National Science Foundation awards approximately 1,000 fellowships nationwide each year to exceptional students in science and engineering, the social sciences, and the history and philosophy of science. The fellowships provide \$14,000 per year and tuition and may be held at any graduate school. Students who have completed not more than one semester of graduate study are eligible. The fellowship will be continued for up to three years if progress is satisfactory. Applications are available in October from the Graduate College Fellowship Office, University of Illinois at Urbana-Champaign.

The Howard Hughes Medical Institute Doctoral Fellowships in the Biological Sciences provide three years of support at \$14,000 annually, plus tuition. Applications are available in September in the Graduate College Fellowship Office, University of Illinois at Urbana-Champaign.

The Department of Defense awards three-year fellowships to outstanding students in certain fields in the sciences and engineering. U.S. citizens studying at Ph.D.-granting institutions are eligible. Applications are available in October in the Graduate College Fellowship Office, University of Illinois at Urbana-Champaign.

The Jacob Javits Fellowship Program, administered by the U.S. Department of Education, awards about 130 fellowships each year in a nationwide competition. The fellowships provide all tuition and fees, as well as a stipend calculated on the student's financial need. U.S. citizens and permanent residents are eligible to apply. Applications are available in the late fall.

A few other foundations and agencies also hold fellowship competitions but on a smaller scale and usually restricted to specific groups, such as the Committee on Institutional Cooperation fellowships for minority students or the American Association of University Women fellowships. Information on these and other fellowships is available early each fall in the Graduate College Fellowship Office.

### ASSISTANTSHIPS

**General Information.** The various departments of the University appoint graduate students as teaching or research assistants. Application should be made directly to the appropriate department by using the Application for Graduate Appointment. Students holding assis-



tantships must be registered during the semesters of employment and, in the case of assistantships requiring the performance of classroom teaching, must be proficient in oral English as determined by current University verification standards. Assistantship appointments ranging from 25 through 67 percent time for three-quarters of the semester provide waivers of tuition and part of the fees. Students who held such waivers during the spring semester, and who have no appointments the following summer, are also entitled to a waiver of tuition and part of the fees for that summer session. As an additional benefit, spouses and dependent children of staff members who have appointments of at least 25 percent time are treated as residents for purposes of tuition assessment. Students may also apply for assistantships in nonteaching units of the University, such as the Computing and Communications Services Office.

Part-time appointments as student residence hall advisers are also available. These jobs provide room and board only. The student affairs coordinator for staff development in the Housing Division has applications for residence hall adviser appointments.

A student who resigns an appointment before working for at least three-fourths of the term (ninety-one days during the regular semester, forty-one days during the summer session) will be assessed tuition and fees unless the student either withdraws from the University at the same time or before the appointment becomes void or files a clearance form for graduation within one week after the resignation date. A term is defined as running from the first day of registration through the last day of final examinations.

### COLLEGE WORK-STUDY ASSISTANTSHIPS

The Graduate College operates a small program of research and administrative assistantships funded by the College Work Study program. Prospective applicants must have obtained the promise of assistantship employment for the next academic year at the time of application, which should take place before January 31 of each year. To apply, the applicant should fill out a screening questionnaire in the Fellowship Office, 209 Coble Hall. If eligible, he or she must use the need-based financial aid procedure described on page 175.

### TUITION AND SERVICE FEE WAIVERS

In addition to the tuition and service fee waivers that accompany fellowships and assistantships, the Graduate College awards a number of waivers each year. These waivers provide exemption from tuition and some fees for the academic year and the summer session immediately preceding or following that year. To hold one of these waivers, a student must register for at least 3 units each semester during the academic year and 1½ units in the summer session. While holding such a waiver, a student may accept part-time or incidental employment not to exceed twenty hours per week either with the University or with an outside employer.

### RESEARCH GRANTS

**Graduate College Dissertation Research Grants.** The Graduate College offers grants for dissertation research to students with superior academic records and dissertation proposals. Competitions are held each fall and spring semester. For further information, inquire in the Graduate College Fellowship Office.

**Other Research Grants.** A great number of organizations and foundations offer grants to support research in specialized fields. Information on these grants can be obtained from the Graduate College Fellowship Office, the Research Services Office, and departmental offices. Some schools and colleges publish additional materials concerning research grants and contracts.

### NEED-BASED FINANCIAL AID

The Office of Student Financial Aid awards limited scholarships, college work-study, and loans to graduate and professional students. Application for this need-based assistance is made separately from an application for fellowships, assistantships, and tuition and service fee waivers. A need analysis document, the Free Application for Federal Student Financial Aid (FAFSA), must be completed. To ensure priority consideration, the FAFSA should be filed between January 1 and March 15 of each year.

A student wishing to obtain a Stafford or other educational loan must file the FAFSA in addition to the loan application. Students are advised to delay processing the loan application until they have received responses to applications for other need-based assistance and fellowships, assistantships, and tuition and service fee waivers.

Additional information about need-based assistance and application packets containing the FAFSA are available from the Office of Student Financial Aid.

If certification for full-time status is required (for example, for loans, immigration, or fellowships), a student must register for at least 3 units or the equivalent, regardless of the existence of a assistantship. The Office of Admissions and Records does not take assistantships into account when assessing for enrollment certifications.

### VETERANS' ASSISTANCE

Veterans who believe they may be eligible for educational benefits should contact the veterans' counselor in the Office of Student Financial Aid. Application for benefits should be made annually.

### EMPLOYMENT

Part-time job opportunities, both on and off campus, are posted in the Office of Student Financial Aid. Students are not required to apply for need-based assistance to use employment staff services.

### EMERGENCY LOANS

In addition to major educational loans, the University makes special funds available. Graduate students with financial problems should go to the Office of the Dean of Students. Staff members in that office can determine the eligibility of these students for emergency loans.

Students may also apply for Stafford Loans through lenders in their hometowns who participate in one of the various educational loan programs.

## GRADUATE COLLEGE REQUIREMENTS

The following are the general requirements of the Graduate College. A *Handbook for Graduate Students and Advisers*, which is distributed to all graduate students enrolled at the University of Illinois at Urbana-Champaign, gives the requirements in more detail. Graduate students should use the *Handbook* as the official statement of Graduate College regulations during their graduate study on the Urbana-Champaign campus. Departments may have requirements that apply in addition to those of the Graduate College. A departmental standard higher than that of the Graduate College (e.g., the minimum grade-point average for degree eligibility) replaces the Graduate College standard.

Departmental and Graduate College policies and requirements change from time to time and may not be immediately reflected in handbooks and other publications. New degree requirements, however, cannot be imposed retroactively on continuing graduate students. If degree requirements are changed, continuing students may complete their degree programs under the requirements in effect at the time of their initial enrollment in the Graduate College. They have the option, however, of electing to be governed by the new requirements if they so desire.

The Graduate College will generally grant no more than two advanced degrees to one individual, nor will it permit a student to earn a graduate degree similar to one obtained elsewhere. Admission to a second nonprofessional (e.g., Ph.D., Ed.D., D.M.A.) doctoral program will be permitted by special approval of the dean of the Graduate College upon the recommendation of the department or equivalent unit.

### GRADING SYSTEM

**Final Grades.** Final grades for courses are recorded as follows: A, B, C, D (lowest passing grade), and Ab or E (failure). No credit will be given for a course in which the grade of E or Ab was received. The grade-point average (GPA) is computed on a five-point scale, with A equal to 5.0. Plus and minus signs do not appear on a graduate student's official transcript and are not used in computing the GPA, but they may be recorded on departmental records.

Other symbols used, but not included in the computation of the GPA, are

W—Officially withdrawn from a course.

Ex—Temporarily excused. An extension of time granted by the instructor to a student who has not completed the final examination or other requirements for the course. An excused grade must be replaced by a letter grade no later than the end of the next term in which the student is enrolled. Failure to complete the work within this time automatically results in a grade of E by rule. If the

student does not enroll the following term, the excused grade becomes an F by rule after one year.

Df—Grade temporarily deferred. Used only in research and other approved courses that extend beyond to F by rule is the same as that for the Ex grade, except for the thesis research course (499).

S or U—Satisfactory or unsatisfactory. Used as final grades in the thesis research course (499) and in certain other approved courses.

CR or NC—Credit or no credit. Used only if a student has registered for a course under the credit/no credit option with the approval of his or her major department.

Ab—Absent from the final examination without an acceptable excuse. This grade counts as a failure.

**Credit/No Credit Option.** Subject to the restrictions of the Graduate College and the major department and with his or her adviser's approval, a student may register for graduate credit under the credit/no credit option. The student must, however, have at least 2 units of course work in the graduate program with grades of A through C for every unit of credit/no credit work.

**Grade-Point Average (GPA) Computation.** A registered student's GPA is computed at the end of every term and reported in the Semester Grade Report, which is mailed to the student about ten days after the final day of examinations. The GPA includes units of course work with grades of A through E and Ab but not those with grades of CR, NC, Ex, Df, S, and U. The GPA does not include courses taken for semester hour credit (for example, physical education courses), nor does it include course work transferred from other universities or colleges with the exception of the Chicago campus of the University of Illinois and courses taken for credit through the CIC Traveling Scholar Program. A student who receives a grade below C, should check with his or her adviser or department to see whether the course must be repeated; a student may also choose to repeat a course. In either case, repeated courses are ignored in the computation of the GPA and the accumulated credits toward a degree.

**Minimum GPA.** A student is required by the Graduate College to maintain a minimum GPA of 3.75 in order to continue in an advanced degree program. Many departments, however, demand a minimum of 4.0 or higher, and their minimums are enforced by the Graduate College.

A student who completes 3 or more units of graded course work with a GPA of less than the minimum will receive a warning letter from the Graduate College. If after the completion of 3 additional units of graded course work a student's GPA has not been raised to or above the required minimum, or if the GPA falls below it at any time thereafter, the student will be placed on limited status. If the student's average does not meet the minimum requirement at the end of the first term on limited status, further registration will be prohibited.

Advisers and departments take factors other than satisfactory grades into consideration in determining qualifications for advanced degrees. An adequate GPA does not in itself insure continuance in an advanced degree program. Records maintained by departments often record deferred and plus and minus grades as well as written evaluations by instructors. These factors, along with other skills and aptitudes, are taken into consideration in departmental decisions about permitting students to continue in master's and doctoral programs.

## CREDIT

**Graduate Credit.** Graduate credit at the University of Illinois at Urbana-Champaign is measured in terms of units, with 1 unit equal to approximately 4 semester hours. Generally, courses in the 300 series carry graduate credit and are open to both graduate and undergraduate students. Courses in the 400 series, with the exception of some courses such as foreign language, carry graduate credit. Enrollment in these courses is restricted to graduate students or students who have petitioned and who meet the requirements to take graduate-level courses.

**Proficiency Examinations.** Credit earned by passing proficiency examinations cannot be applied to the requirements for advanced degrees, but such examinations may be taken to fulfill prerequisites for more advanced courses or to demonstrate competence in areas considered important to a student's area of study. A proficiency examination will be recorded only if the student is registered at the time of the examination. These examinations are usually given with-

out cost to the student, but a fee may be charged to defray the cost of examinations prepared by agencies outside the University. Students should consult their advisers before applying for proficiency examinations.

**Credit for Work Completed Elsewhere.** A student who has completed graduate-level course work at an accredited institution within the last five years with grades of A or B, but has not applied the credit toward any advanced degree, may request that the credit earned for that work be applied to a degree at the University of Illinois at Urbana-Champaign. Students may request that such credit be accepted by submitting petition forms accompanied by official transcripts after successfully completing at least 2 units of graduate work on the Urbana-Champaign campus. Credit for a master's degree completed at the University of Illinois or at another institution cannot be used as partial fulfillment of the requirements for a second master's degree. A student who has earned a master's degree at another university and then completed additional course work at an accredited institution before enrolling at the University of Illinois may petition to transfer credit for that additional work. A student having a master's degree is considered to have completed the first stage of a doctoral program unless the department stipulates otherwise. It should be stressed, however, that all doctoral candidates, regardless of transfer credits or master's degrees completed elsewhere, must complete 16 units in residence on the Urbana-Champaign campus or in courses meeting in other locations that have been approved by the Graduate College for graduate credit.

**Research Credit and 499.** The time devoted to research is recorded by registration in 499 (thesis credit) or in 400-level courses with such titles as "Independent Study" or "Special Topics." Registration in 499 indicates that the student's research is expected to result in a thesis in partial fulfillment of the requirements for a master's or doctoral degree. Therefore, all students registering in 499 should do so only with full departmental approval. Registration in 499 is required if a thesis is being completed as a degree requirement.

**Extramural Courses.** Graduate courses are offered by members of the University faculty at various centers throughout the state. Pamphlets listing these courses can be obtained from the Office of Continuing Education and Public Service. An extramural course is considered as work in residence if it is approved for graduate credit by the department offering the course and by the Graduate College. Credit earned in extramural courses can be applied toward an advanced degree only if the courses are approved in advance by the adviser and constitute part of a well-integrated program.

The units of credit required for the master's degree must be earned in courses meeting on the Urbana-Champaign campus or in courses approved by the Graduate College for offering at off-campus locations. Credit for extramural courses can be applied to the second stage of a doctoral program only within the limits of campus residence expected by the department offering the degree.

**Correspondence Courses.** Credit for correspondence courses will be applied toward an advanced degree but can be used to fulfill prerequisites or remove deficiencies. A list of correspondence courses is available from the Office of Continuing Education and Public Service.

## REQUIREMENTS FOR THE MASTER'S DEGREE

The Graduate College requires a minimum of 8 units of credit for the master's degree. At least 3 units must be in 400-level courses, and 2 of these 3 units must be in the major field. Credit applied toward the degree must be earned in courses meeting on the Urbana-Champaign campus, on the Chicago campus, or in other locations approved by the Graduate College for graduate credit. Master's degrees are conferred in May, August, October, and January. Master's candidates must complete all degree requirements, under normal circumstances, within five years after their first registration in the Graduate College.

Some departments require a final examination for the master's degree. Individual departments also determine master's degree thesis requirements. Some departments require or recommend a thesis, but others ask for a "substantial research paper" or require only the minimum 8 units of course work. Thesis credit is earned in courses numbered 499 in each department. No more than 3 units, and in some departments only 2 units, of 499 can be applied to the master's degree.

## REQUIREMENTS FOR THE DOCTORAL DEGREE

**Credit and Residence.** Doctoral programs are divided into three stages, as described below, and must include a minimum of 24 units of credit. At least 16 units, including thesis credit, must be earned in courses meeting on the Urbana-Champaign campus, at the Chicago campus, or in other locations approved by the Graduate College for graduate credit. After the residence requirement has been fulfilled, a student who plans to leave campus may petition the Graduate College for permission to register in absentia for thesis credit.

**Stage I—** The master's degree or its equivalent (8 units, or 32 semester hours, of acceptable graduate work at this or another accredited university).

**Stage II—** One or more additional years devoted to course work and research in preparation for the preliminary examination, and fulfillment of the department's special requirements, if these have not been satisfied earlier. Each department has a procedure for evaluating a student's progress toward the doctorate. This evaluation, either by examination or other formal review, results in a decision about whether a student is making satisfactory progress. The decision is communicated in writing to the student and to the Graduate College. Such evaluation takes place no later than the end of the second year after a student enters the Graduate College. In some departments, the evaluation may take the form of a qualifying examination that a student must pass before entering Stage II of a doctoral program. Passing the preliminary examination marks the end of Stage II.

**Stage III—** Research and other activities culminating in an approved dissertation and final oral examination. Continuous registration, excluding summer sessions, should be maintained until a student has completed the credit requirement for the doctoral degree. At this stage, a student who cannot maintain continuous registration must apply for readmission in order to continue doctoral study. Registration in 499 (thesis credit) is also required for the term in which a student takes the final examination, regardless of when the thesis will be deposited with the Graduate College or when the degree will be conferred.

**Time Limit.** Doctoral candidates must complete all degree requirements within seven years after their initial registration in the Graduate College. A student entering directly into Stage II, with a master's degree from another university or with a significant lapse of time since earning a master's degree on this campus, has six years in which to complete degree requirements.

**Foreign Language Requirement.** Each department establishes its own foreign language requirement; some allow for substitution of research skills in computer programming language or statistical analysis.

## PRELIMINARY AND FINAL EXAMINATIONS

Preliminary examinations taken at the end of Stage II of doctoral programs may be oral, written, or both, depending on the department's policy. Final examinations are oral and public.

The dean of the Graduate College appoints doctoral committees, at departmental request, to administer preliminary and final examinations. These committees must be composed of three or more members of the graduate faculty.

Decisions of the committees for both preliminary and final examinations must be unanimous. Each department outlines its policies regarding preliminary and final examinations as part of the description of its advanced degree programs and requirements that is distributed to graduate students in the department.

## THESES

All candidates for the Ph.D. degree and candidates for most other doctoral degrees are required to write a thesis. Individual departments may have special requirements in this respect. In addition, all completed theses must be acceptable for deposit in the Graduate College; a thesis that fails to meet Graduate College standards will be rejected. The thesis must be the work of a single author.

Before the degree is conferred, a student may find it desirable or expedient to publish some of the findings that will later be incorporated in the thesis. If this is done, an appropriate acknowledgment of the earlier publication should be included in the thesis. The Graduate

College encourages such publication, but the thesis may not be published in its entirety before all degree requirements have been met.

If thesis research involves the use of human subjects, warm-blooded animals, or hazardous materials or procedures, the student must comply with the University's policies and procedures governing such work.

Because all theses are made available to the public, a thesis containing classified material, i.e., material deemed nonpublishable under Federal Security Regulations, cannot be accepted.

## ADVANCED CERTIFICATE

Some departments, such as those in the College of Education and the Graduate School of Library Science, offer advanced certificates for students who are interested in additional professional training beyond the master's degree but who are not planning to obtain the doctorate. These programs usually require the completion of 8 units of course work beyond the master's degree. Information concerning specific advanced certificate programs is available from departmental offices.

## GRADUATE COLLEGE PROGRAMS OF STUDY

The graduate programs offered by the Graduate College, through the various divisions, schools, institutes, centers, and departments of the University of Illinois at Urbana-Champaign, are described on the following pages; the areas of specialization within these programs are described as well. Included also are the offerings of several interdisciplinary areas of concentration, such as biomolecular chemistry, computational science and engineering, environmental studies, genetics, American civilization, and African, Asian, Russian, and Latin American area studies.

The minimum requirements for admission and other requirements for graduate degrees are given for each program. Prospective students are reminded that they are seeking admission to the Graduate College of the University of Illinois at Urbana-Champaign and cannot be admitted to the college or to a particular academic department offering programs leading to advanced degrees without satisfying the admission requirements of both. Likewise, both departmental and Graduate College requirements must be met before an advanced degree is awarded by the University. If departmental requirements are higher than the minimum Graduate College requirements, the higher standards apply.

The University of Illinois at Urbana-Champaign *Courses* catalog, published biennially, lists all the undergraduate and graduate courses offered at the Urbana-Champaign campus. A listing of courses offered each term is published in the *Timetable*, issued in April for the fall semester, in March for the summer session, and in October for the spring semester. Copies of the *Courses* catalog are for sale through the Illini Union Bookstore, 809 South Wright Street, Champaign, IL 61820. Copies can also be purchased by mail from the bookstore. The *Timetable* is available free of charge at the information desk of the Illini Union. The graduate application for admission packet is available free of charge from the Graduate College, University of Illinois at Urbana-Champaign, 202 Coble Hall, 801 South Wright Street, Champaign, IL 61820.

## ACCOUNTANCY

**Head and Director of Graduate Studies:** Andrew D. Bailey, Jr.  
**Correspondence and Information:** Head, Department of Accountancy, University of Illinois at Urbana-Champaign, 360 Commerce West Building, 1206 South Sixth Street, Champaign, IL 61820; (217) 333-0857

### GRADUATE FACULTY

**Professors:** A. D. Bailey, P. J. Beck, C. E. Brown, J. R. Dietrich, Y. Kwon, F. L. Neumann, H. M. Schoenfeld, I. Solomon, E. Willis, V. K. Zimmerman

**Associate Professors:** M. H. Berry, J. S. Chandler, J. Davis, D. Kleinmuntz, K. H. Molloy, P. A. Silhan, D. Ziebart, R. E. Ziegler

**Assistant Professors:** N. Desmond, C. Finger, J. Rosett, T. Sougiannis, D. Stone

### GRADUATE DEGREE PROGRAMS

The Department of Accountancy offers graduate work leading to the degrees of master of accounting science (M.A.S.), master of arts, and doctor of philosophy in accountancy. For graduates of business schools with credit in appropriate undergraduate courses, the M.A.S. degree



requirements can be completed in one year. For nonbusiness graduates, the M.A.S. degree can be earned in two years. The Ph.D. degree takes approximately three to four years of full-time study and research.

#### ADMISSION

All applicants, native or international, are required to take the Graduate Management Admission Test. This test should be taken early enough to ensure that the results will be available to the department before application on admission. The admission requirements of the Graduate College also apply. In addition, all international applicants must take the Test of English as a Foreign Language and the Test of Spoken English.

#### MASTER OF ACCOUNTING SCIENCE

The master of accounting science degree offers a two-year program for students with little or no background in accounting or as little as one year's study for students who wish to expand on an undergraduate degree in accountancy or another business field. All candidates are required to complete at least 8 units of course work. At least 5 units must be at the 400 level; 4 units must be in accounting, and of these 4 units, 3 are specified and 1 is elective. The remaining 4 units are general electives available for meeting the individual student's plans. For example, the student may use some or all of them to develop an area of specialization such as auditing, taxation, information systems, financial accounting, managerial accounting, not-for-profit accounting, or international accounting. A student's program is individually developed in consultation with a faculty adviser. No thesis is required, although students may elect to write one.

To be eligible to complete the M.A.S. program in 8 units, students should have completed an equivalent of the undergraduate curriculum in accountancy at the University of Illinois at Urbana-Champaign, including the following: at least 21 hours of undergraduate work in accounting; a course in general economic theory, in intermediate microeconomics, in computer programming and applications, and in each of the functional fields of business; two courses in statistics; and courses including finite mathematics, linear algebra, and calculus.

Students with little or no business and accounting background are required to complete as many as 8 additional units of work. In the first year of this two-year program, students take four specified graduate courses in accountancy. Depending upon their background, students also enroll in courses in statistics, economics, mathematics, computer programming, and the functional areas of business. Students who already meet any of the requirements of the two-year program receive some credit toward the total 16-unit requirement. In the second year, the requirements are those for all M.A.S. students, as described above.

#### MASTER OF SCIENCE IN ACCOUNTANCY WITH SPECIALIZATION IN TAXATION

The department also offers a separate master's degree in taxation. Students who have been admitted into the M.A.S. program may transfer into the M.S. (Taxation) program. The program combines required courses in taxation with electives, both within and outside the department. The total program consists of 8 units of course work, of which at least 4 units must be in taxation.

#### DOCTOR OF PHILOSOPHY

Applications for admission to the doctoral program, supported by three letters of recommendation, must be approved by the department admissions committee, which may require an oral or a written examination. For students with a bachelor's degree and adequate background in appropriate areas, the requirements for the doctor of philosophy degree include the following: credit in micro- and macroeconomics; two courses in behavioral science or financial economics; two courses in statistics; five minor area and research technique courses (four of which must be nonaccounting courses); four accounting courses; and the thesis. The student's doctoral program is determined in consultation with a faculty advisory committee. The student's tentative plans for the doctoral thesis serve as a guide in planning the program.

In addition, candidates must pass written and oral preliminary examinations and an oral final examination on the doctoral thesis. In the preliminary examinations, candidates must demonstrate a thorough knowledge of research methods and accounting theory in both its external and internal dimensions; a general acquaintance with the subject matter and bibliography of other areas of accountancy; and proficiency in the required areas of economic theory, quantitative methods, and behavioral science or financial economics. Although

teaching is not a general Graduate College requirement, experience in teaching is considered an important part of the accountancy graduate program.

#### CENTER FOR INTERNATIONAL EDUCATION AND RESEARCH IN ACCOUNTING

The Center for International Education and Research in Accounting is functionally and administratively part of the Department of Accountancy. The center's objective is to foster the international development of education and research in the accounting discipline, to provide a base for the international exchange of ideas and materials, to carry out research programs of international interest, and to help accounting faculty members and students from other countries come to the University of Illinois at Urbana-Champaign for study and research in accountancy.

The Office of Accounting Research (OAR) was established in 1983 as the research arm of the Department of Accountancy. The mission of OAR is divided into three distinct parts: (1) identify seminal programs that would benefit from attention; the ultimate goal is to generate ideas and concepts that impinge on the development of the accounting discipline; (2) support major research by providing guidance and resources; (3) disseminate research findings to both the academic and professional communities (i.e., practitioners, corporate executives, educators, and regulators).

#### ADVERTISING

*Head of the Department:* J. E. Haefer

*Correspondence and Information:* Director of Graduate Studies in Advertising, University of Illinois at Urbana-Champaign, 119 Gregory Hall, 810 South Wright Street, Urbana, IL 61801; (217) 333-1602; FAX: (217) 244-3348

#### GRADUATE FACULTY

*Professors:* K. B. Rotzoll, T. K. Srull

*Associate Professors:* J. E. Haefer, T. C. O'Guinn, S. Shavitt

*Assistant Professors:* S. Narayanan, C. Otnes, L. N. Peñaloza, L. M.

Scott, M. A. Strahilevitz

#### GRADUATE DEGREE PROGRAM

The Department of Advertising offers graduate work leading to the master of science degree. For the program leading to the Doctor of Philosophy in Communications, see page 193.

#### ADMISSION

Admission to graduate study in advertising requires completion of the requirements for a bachelor's degree in an accredited institution of recognized standing. Applicants are required to submit results from either the Graduate Record Examination or the Graduate Management Admission Test and are required to attach to the application a short essay indicating why they want to do graduate work in advertising. Non-native English speaking applicants are required to show evidence of English proficiency, which is provided by a satisfactory score on the Test of English as a Foreign Language (TOEFL) and the Test of Spoken English (TSE) as well. Currently, the minimum scores of 600 on the TOEFL, and 240 for the TSE are expected by the Department of Advertising. The Graduate College admission requirements also apply.

#### MASTER OF SCIENCE

Candidates for the M.S. degree must complete at least 9 units. Students with an undergraduate major in advertising can usually earn the M.S. degree in one academic year and one summer session if they take a full course of study. Applicants without an undergraduate major in advertising may be required to take as many as nine background courses in addition to the 9 units making this a two-year program.

At the time of admission, students will be advised of the probable number of units required for graduation. At the time of registration advising, students will be informed of the exact number of units needed to fulfill the M.S. requirements.

#### AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

*Head of the Department:* W. C. Solomon

*Correspondence and Information:* Department of Aeronautical and Astronautical Engineering, University of Illinois at Urbana-Champaign, 306 Talbot Laboratory, 104 South Wright Street, Urbana, IL 61801; (217) 333-2651

**GRADUATE FACULTY**

*Professors:* L. A. Bergman, C. E. Bond, J. D. Buckmaster, B. A. Conway, J. C. Dutton, J. I. Palmore, J. E. Prussing, L. H. Sentman, W. C. Solomon

*Associate Professors:* R. A. Beddini, M. B. Bragg, R. L. Burton, K. D. Lee, N. S. Namachchivaya

*Assistant Professors:* V. L. Coverstone-Carroll, P. H. Geubelle, E. Loth, M. S. Selig, P. G. Voulgaris, S. R. White

*Emeritus Professors:* H. H. Hilton, A. I. Ormsbee, K. R. Sivier, S. M. Yen, A. R. Zak

**GRADUATE DEGREE PROGRAM**

The Department of Aeronautical and Astronautical Engineering offers graduate programs leading to the degrees of master of science and doctor of philosophy. Study and research are planned to prepare graduates for fundamental and applied work in airplane, missile, and space flight engineering. Typical areas of concentration are aerodynamics, computational fluid dynamics, composite materials, structures, structural dynamics, aeroelasticity, stochastic dynamics, combustion and propulsion, chemical lasers, optimal orbit analysis, guidance and control, space mechanics, and solar and wind energy.

**ADMISSION**

Typically, the prerequisite for graduate study is the equivalent of the undergraduate curriculum required at the University of Illinois at Urbana-Champaign for a bachelor's degree in aeronautical and astronautical engineering; however, graduates of curricula leading to degrees in other fields of engineering, the physical sciences, or mathematics may also be admitted to advanced study. Admission requirements of the Graduate College apply.

**MASTER OF SCIENCE**

Candidates for the degree of master of science are required to complete a minimum of 8 units of credit: 7 units of course work and 1 unit of thesis credit. At least 3 units must be in 400-level courses, and 2 of these 3 units must be in aeronautical and astronautical engineering. Only 1 of the 7 units can be a special project class. For students terminating their studies with the M.S. degree, a nonthesis option is available by departmental petition. Those not writing a thesis are required to complete a minimum of 9 units of credit. At least 4 units must be in 400-level courses, and 3 of those 4 units must be in aeronautical and astronautical engineering.

**DOCTOR OF PHILOSOPHY**

All students desiring to enter the doctoral program are eligible to take the aeronautical and astronautical engineering qualifying examination during the term they earn their seventh unit of graduate credit, excluding Aeronautical and Astronautical Engineering 499 (Thesis Research). An exam is given at least once a year, and successful passage is required. Students who enter with the master's degree typically take the qualifying exam during the first semester following their admission to the program. Admission to the doctoral program is based upon the course work, the qualifying examination, and an assessment of the candidate's ability to do independent research. Although there is no specific GPA requirement to continue from M.S. to Ph.D., as a guide, the candidate will be expected to maintain a minimum 4.0 GPA ( $A = 5.0$ ) in courses taken in the M.S. program.

Because of the wide range of interests in the field of aeronautical and astronautical engineering, there are no specific course requirements for the program of study leading to the degree of doctor of philosophy. Each student plans a program in consultation with a departmental adviser. Courses offered by departments other than the Department of Aeronautical and Astronautical Engineering may be included in the area of study when these courses are of particular value to the work that students desire to emphasize. The program of study must meet with the approval of the departmental adviser. Minimum requirements for the degree consist of 8 units of course credit beyond the master's degree, successful completion of the preliminary examination, and a satisfactory thesis developed from 8 units of thesis research. Of the total course units, beyond the master of science course requirement, only 2 units maximum can be special project classes. Of the total Ph.D. course work requirements, at least 6 units must be at the 400 level, and 4 of these 6 units must be in aeronautical and astronautical engineering.

**FINANCIAL AID**

Financial aid for graduate students is available in the form of fellowships, teaching and research assistantships, and tuition waivers. A block grant from the National Aeronautics and Space Administration supports a multidisciplinary research and training program. Quali-

fied candidates are considered for financial support upon application. In addition, graduate students making satisfactory progress toward their degrees may be considered for financial support.

**AFRICAN STUDIES**

*Director of Graduate Studies:* D. Crumme

*Correspondence and Information:* Director of the Center for African Studies, University of Illinois at Urbana-Champaign, 210 International Studies Building, 910 South Fifth Street, Champaign, IL 61820; (217) 333-6335

**GRADUATE FACULTY**

*Professors:* E. Accad, E. Bokamba, D. Crumme, R. Hay, D. Johnson, B. Kachru, A. Kagan, C. Kisseberth, A. Sofranko, C. Stewart, G. Yu

*Associate Professors:* S. Ambrose, T. Bassett, K. Cloud, A. Deck, A. Glaze, A. Gottlieb, V. Hoffman-Ladd, I. Kakoma, W. Martin, D. Prochaska, M. Saul

*Assistant Professors:* M. Bowen, D. Brewer, F. Cassimjee, K. Cuno, E. Kalipeni, T. Turino, M. West, A. Winter-Nelson

**GRADUATE DEGREE PROGRAMS**

The Center for African Studies administers a two-year program of language and area courses leading to an interdisciplinary master of arts degree. The program provides both language and area training for three constituencies of students: those seeking to match area expertise with professional training; those proceeding to disciplinary-based doctoral work; and those for whom the degree would stand on its own. The center also administers graduate minors in African studies with various departments.

**MASTER OF ARTS**

A candidate must complete 8½ units of graduate credit in area studies courses, drawn from at least three different units, and must study or demonstrate proficiency in a language indigenous to Africa to the advanced (third-year) level. One of the area courses must be African Studies 450, the center-originated interdisciplinary seminar.

**MINOR FOR THE DOCTOR OF PHILOSOPHY DEGREE**

A doctoral candidate who elects African studies as a minor must secure approval from the center and must earn at least 4 units of graduate credit in approved courses in at least two departments. Courses are available in the following fields: agricultural economics, anthropology, art history, comparative literature, economics, education, French, geography, history, linguistics, political science, and sociology.

**FINANCIAL AID**

Each year the center is generally able to assist a limited number of graduate students in area studies through awards of Foreign Language and Area Studies Fellowships.

**AGRICULTURAL ECONOMICS**

*Head of the Department:* David L. Chicoine

*Correspondence and Information:* Head, Department of Agricultural Economics, University of Illinois at Urbana-Champaign, 305 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801; (217) 333-1810

**GRADUATE FACULTY**

*Professors:* P. J. Barry, C. A. Bock, J. B. Braden, R. J. Burdge, D. L. Chicoine, L. P. Fetting, P. Garcia, D. L. Good, M. R. Grossman, H. D. Guither, R. J. Hauser, L. D. Hill, R. M. Leuthold, D. A. Lins, S. B. Salamon, J. T. Scott, W. D. Seitz, A. J. Sofranko, S. T. Sonka, D. L. Uchtmann, J. C. van Es

*Associate Professors:* J. E. Allen, K. Cloud, R. L. Farnsworth, R. H. Hornbaker, C. H. Nelson, G. C. Nelson, S. R. Thompson, L. J. Unnevehr

*Assistant Professors:* R. J. Brazee, D. S. Bullock, J. B. Cirihiel, E. A. DeVuyt, R. J. Garcia, M. A. Mazzocco, H. Onal, D. R. Purnell, B. J. Sherrick, A. E. Winter-Nelson

**GRADUATE DEGREE PROGRAMS**

The Department of Agricultural Economics offers courses leading to the master of science and doctor of philosophy degrees. Areas of concentration and specialization are offered in agricultural finance; agricultural marketing; farm and agribusiness management; international and policy economics; natural resource, production, and environmental economics. Courses are also offered in agricultural law, quantitative methods, and rural sociology. The department also rec-

ognizes specializations involving substantial course work in other departments, such as a specialization in econometrics based on courses offered by the Department of Economics. Students interested in rural sociology usually enroll in the Department of Sociology and take classes and conduct research with rural sociology faculty.

#### MASTER OF SCIENCE

Graduate College admission requirements apply. The department considers the applicant's previous program of study, scholastic record, and professional experience. The Graduate Record Examination is not required for admission, but is strongly recommended. It is required of applicants seeking financial aid. Students having inadequate quantitative skills or less than 12 semester hours of agricultural economics or economics may be required to take additional courses to prepare adequately for graduate studies. Students who desire to specialize in rural community development with the rural sociology emphasis should have a minimum of 6 semester hours of rural sociology or sociology.

The minimal 8-unit program must include 1 unit of economic theory; 4 units of agricultural economics or rural sociology, including 2 units of thesis credit, 1 unit in quantitative methods and research methodology, and at least 1 unit at the 400 level; and 2 units of open electives. No more than 2 units of thesis credit can be included in the 8-unit program. The required thesis may be waived under certain circumstances. Each student is required to present an oral research seminar open to all faculty and students. Students must earn a 4.0 (A = 5.0) in all graded courses and must complete the requirements within five years of initial registration.

#### DOCTOR OF PHILOSOPHY

Graduate College admission requirements apply. An applicant with a master's degree in agricultural economics or a closely related discipline and with an outstanding scholastic record is favorably considered for admission. The Graduate Record Examination is strongly recommended but not required for admission. It is required of applicants seeking financial aid.

The doctoral candidate must complete 8 units of nonthesis courses beyond the master's degree. The student must complete within three semesters and a summer following initial enrollment a core of five courses made up of 3 courses in economic theory and one course each in econometrics, mathematical programming, and risk and information theory or applied welfare analysis. Students complete elective courses in their areas of specialization and at least 6 and up to 8 units of dissertation research. The student must pass one oral and two written preliminary examinations, submit an acceptable thesis, and pass a final oral examination. A minimum of 16 units beyond the master's degree, including thesis credits, is required with a grade-point average of 4.0 (A = 5.0) on all graded courses. Requirements must be completed within seven years of initial enrollment in the master of science program at the University of Illinois (six years from initial enrollment in the Ph.D. program for those who completed an M.S. at another institution).

#### FINANCIAL AID

University fellowships and tuition and fee waivers are awarded by the Graduate College. Several fellowships are also awarded on the basis of competition among graduate students studying in departments in the College of Agriculture. In addition, the Department of Agricultural Economics awards several fellowships and maintains a number of part-time positions for graduate students, most of them in research. These assistantships are offered on a competitive basis. For further information and a copy of the graduate program brochure, write to the address above.

#### AGRICULTURAL EDUCATION

*Head of the Unit:* Edward W. Osborne

*Correspondence and Information:* Agricultural Education, University of Illinois at Urbana-Champaign, College of Agriculture, 328 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801; (217) 333-3166

#### GRADUATE FACULTY

*Professor:* B. E. Swanson

*Associate Professors:* P. Buriak, E. W. Osborne, E. B. Russell

*Emeritus Professors:* P. E. Hemp, L. J. Phipps

#### GRADUATE DEGREE PROGRAM

The master of science program has been planned as a professional degree for students who have completed the requirements of a four-year curriculum in agricultural education or allied fields of study.

Areas of concentration include youth development, adult education, curriculum development, program planning, teaching methodology, and instructional technology.

#### ADMISSION

The program is open only to students who have received a bachelor's degree. The Graduate College admission requirements apply.

#### MASTER OF SCIENCE

Candidates must earn 8 units: 4 units in agriculture, 2 units in education, and 2 units in electives, which may be in agriculture, education, or, in exceptional cases, in other fields. At least 3 of the 8 units must be in 400-level courses. Agriculture courses and electives must be selected with the approval of the adviser. A master's thesis is optional.

#### MAJOR AREAS OF FACULTY RESEARCH INTEREST

Research strengths among faculty members in agricultural education include curriculum reform, program planning, change orientation of educators, problem-solving instruction, psychomotor skill acquisition, extension education, youth development, and international agricultural education and knowledge systems.

#### RESOURCES

Graduate students in agricultural education have at their disposal the considerable resources of the College of Agriculture and the campus. These include microcomputer and mainframe computer facilities, agricultural education archives for historical research, instructional resources, the Vocational Agriculture Service, agricultural communications, and the Office of International Agriculture.

#### FINANCIAL AID

Assistantships and waivers of tuition and most fees are given on a competitive basis through funds provided by the College of Agriculture and the Graduate College. Part-time positions on research projects are often available. Further information and a copy of the graduate program brochure may be obtained by writing to the address above.

#### AGRICULTURAL ENGINEERING

*Head of the Department:* Loren E. Bode

*Correspondence and Information:* Head, Department of Agricultural Engineering, University of Illinois at Urbana-Champaign, 338 Agricultural Engineering Sciences Building, 1304 West Pennsylvania Avenue, Urbana, IL 61801; (217) 333-2969

#### GRADUATE FACULTY

*Professors:* L. E. Bode, L. C. Christianson, D. L. Day, C. E. Goering, J. W. Hummel, D. R. Hunt, B. A. Jones, Jr., J. K. Mitchell, M. R. Paulsen, R. L. Pershing, E. D. Rodda, J. C. Siemens

*Associate Professors:* R. A. Aherin, P. Buriak, R. C. Coddington, S. R. Eckhoff, M. C. Hirschi, J. B. Litchfield, J. F. Reid, G. L. Riskowski

#### GRADUATE DEGREE PROGRAMS

The Department of Agricultural Engineering offers the master of science and doctor of philosophy degrees.

#### MASTER OF SCIENCE

Admission requirements include completion of an undergraduate program equivalent to the agricultural engineering curriculum at the University of Illinois at Urbana-Champaign with at least a 4.0 grade-point average (A = 5.0) for the last 60 semester hours of course work. Applicants whose native language is not English must present a TOEFL score of 570 or more (also see Graduate College minimum). Students may concentrate study in one of the areas of research specialization listed below. Supporting course work includes mathematics; computer science; statistics; engineering mechanics; civil, electrical, and mechanical engineering; agronomy; food science; and other appropriate fields. The completion of 8 1/2 units and the preparation and defense of a thesis involving an analytical or experimental investigation (which satisfies 2 units of credit) are required of M.S. candidates unless a waiver of thesis is granted. At least 3 of the units for the M.S. degree must be in 400-level courses, and 2 of these units must be in agricultural engineering. Candidates who are permitted to pursue a nonthesis degree must complete a minimum of 9 units.

#### DOCTOR OF PHILOSOPHY

Admission is limited to individuals who have demonstrated exceptional ability through outstanding performance in obtaining the master of science degree and/or through a high degree of technical and professional accomplishment. Candidates must also satisfy entrance requirements for the M.S. degree program.



Opportunities for study are found in all of the areas of specialization listed below. Candidates will be required to include course work and staff consultation from the various disciplines within the University to build strong technical programs and to fulfill the standard requirements of the Graduate College. There are no foreign language requirements; however, a high degree of competence may be required in areas associated with this research, such as statistics, simulation, and computer programming.

#### RESEARCH INTERESTS

Students may specialize in power and machinery (tillage and soil dynamics, site specific crop management, pesticide application technology, machine vision applications, machinery management, and engines and alternative fuels); soil and water resources (hydrology, erosion and sediment transport, water management, wetlands, and water quality); structures and environment (structural analysis and design; building materials evaluation; bioprocessing of agricultural wastes and byproducts; and environmental control for plant, animal, and human biological systems); food and process engineering (engineering properties of foods, physical properties of biological products, crop conditioning, grain drying, milling, grain quality evaluation, transport phenomenon in biological materials, fermentation, nonfood uses of cereal grains, and alternative energy systems); or electronic and electrical systems (biosensors and controls, nuclear magnetic resonance imaging, machine vision, near-infrared reflectance applications, energy systems, and microprocessor control applications).

#### FINANCIAL AID

Fellowships, supported both by University and by College of Agriculture funds, are available on a competitive basis. A limited number of assistantships, providing both teaching and research experience, are usually available on a half-time basis.

### AGRONOMY

*Head of the Department:* G. H. Heichel

*Correspondence and Information:* Head, Department of Agronomy, University of Illinois at Urbana-Champaign, AW-101 Turner Hall, 1102 South Goodwin Avenue, Urbana, IL 61801; (217) 333-3420

#### GRADUATE FACULTY

*Professors:* W. L. Banwart, C. W. Boast, D. P. Briskin, J. W. Dudley, D. W. Graffis, J. E. Harper, J. J. Hassett, G. H. Heichel, J. D. Hesketh, R. G. Hoelt, D. A. Holt, T. Hymowitz, M. L. Jones, E. L. Knake, R. J. Lambert, M. D. Glamery, D. A. Miller, R. L. Mulvaney, E. D. Nafziger, J. J. Nicholasides III, C. D. Nickell, W. L. Ogren, T. R. Peck, M. J. Plewa, A. R. Portis, E. W. Stoller, J. W. Stucki, L. M. Wax, J. M. Widholm

*Associate Professors:* F. E. Below, D. G. Bullock, M. A. Cole, R. G. Darmody, M. G. Huck, F. L. Kolb, R. L. Nelson, K. R. Olson, G. E. Pepper, A. L. Rayburn, F. W. Simmons, L. O. Vodkin

*Assistant Professors:* A. F. Bent, T. R. Ellsworth, S. E. Hart, S. E. Hollinger, T. R. Rocheford, W. R. Roy, M. M. Sachs, G. K. Sims, M. M. Wander

#### GRADUATE DEGREE PROGRAMS

The Department of Agronomy offers course work leading to the master of science and doctor of philosophy degrees. Great flexibility exists for planning programs in various areas, and no rigid curricula are prescribed. The following areas of specialization indicate the breadth of opportunities, although they are not mutually exclusive: plant breeding, genetics, cytogenetics; molecular genetics and genetic engineering; crop physiology and biochemistry; weed science; soil fertility; soil management and conservation; crop production and management; crop ecology; soil chemistry; soil genesis, classification, and pedology; soil microbiology and biochemistry; soil physical chemistry and mineralogy; soil physics and management; biometry; environmental agronomy; and international agronomy.

#### ADMISSION

Applicants with an appropriate bachelor's degree will be considered for admission to the M.S. program. Admission to the Ph.D. program will be considered for applicants with the M.S., those nearing completion of the M.S., and in some cases, those with the B.S. Because of the diversity of programs in the Department of Agronomy, the preparation that is needed varies considerably. Undergraduate training equivalent to that required at the University of Illinois at Urbana-Champaign for majors in agricultural science (plant or soil science), agronomy,

crops, or soils is appropriate. For some programs, greater emphasis is given to previous training in plant sciences, soil sciences, chemistry, geology, or mathematics. In all cases, previous experience or other significant evidence of serious interest in crops and/or soils is expected. A grade-point average of at least 4.0 ( $A = 5.0$ ) in the last 60 semester hours of undergraduate work plus any graduate work completed is required. Applicants whose native language is not English must score at least 550 on the TOEFL examination.

#### MASTER OF SCIENCE

Candidates must complete 8 units of graduate study as approved by their graduate advisory committee with a grade-point average of at least 4.0, present an acceptable thesis (for the thesis option), and pass an oral examination. At least 3 units must be at the 400 level, including at least 1 unit of course work other than Agronomy 499 (thesis research). An acceptable thesis must receive unanimous approval by the graduate advisory committee for the thesis option, or a non-thesis option with 3 additional units of course work can be substituted. An oral final examination is required of all M.S. candidates and written examinations may be required at the option of the examining committee. The department offers an off-campus master of science (OCMS) degree targeted for fully employed students located at various places in the state.

#### DOCTOR OF PHILOSOPHY

Candidates must complete a minimum of 24 units of graduate study (16 units of in-residence credit beyond the M.S., 8 units of which must be course work approved by the graduate advisory committee and with a grade-point average of at least 4.0). For students admitted without an M.S., an oral qualifying examination must be passed after completion of 5 units of graded course work. Students are required to pass an oral preliminary examination, usually after substantial completion of the Ph.D. course work requirements. An acceptable dissertation is required. An oral final examination is required, consisting of a defense of the dissertation and examination on such other matters as members of the examining committee may select. The qualifying, preliminary, and final examinations may include written sections at the option of members of the examining committee. At least 4 units of 300- or 400-level courses outside the Department of Agronomy are required. Residence requirements are the same as those of the Graduate College.

#### RESEARCH INTERESTS

The Department of Agronomy has excellent laboratory, greenhouse, and field research facilities available for all types of research. A network of experimental locations throughout the state and cooperative arrangements with other states make thesis research possible under a wide range of environmental and climatic conditions. The department's involvement in international programs may provide opportunities to conduct thesis research abroad. A brochure that provides more details about the graduate program and individual faculty research interests is available upon request.

The Department of Agronomy also offers a genetics specialization through the School of Life Sciences.

#### FINANCIAL AID

Fellowships and assistantships are available to outstanding students on a competitive basis. Awards for financial assistance are based principally on a candidate's academic record, statement of plans, and letters of reference.

### AMERICAN CIVILIZATION

#### GRADUATE DEGREE PROGRAMS

An interdisciplinary concentration in American civilization is available, leading to the master of arts or doctor of philosophy degree. Students interested in this program enroll in the Department of History. Information may be obtained from the Department of History.

### ANIMAL SCIENCES

*Head of the Department:* Dennis R. Campion

*Correspondence and Information:* Department of Animal Sciences, University of Illinois at Urbana-Champaign, 116 Animal Sciences Laboratory, 1207 West Gregory Drive, Urbana, IL 61801; (217) 333-3462

**GRADUATE FACULTY**

*Professors:* J. M. Bahr, D. H. Baker, L. L. Berger, T. R. Carr, J. H. Clark, R. A. Easter, G. C. Fahey, Jr., W. R. Gomes, M. Grossman, P. C. Harrison, G. R. Hollis, M. F. Hutjens, K. W. Kelley, H. A. Lewin, R. I. Mackie, F. K. McKeith, N. R. Merchen, D. F. Parrett, C. M. Parsons, D. P. Philipp, G. E. Ricketts, J. L. Robinson, R. D. Shanks, S. L. Spahr  
*Associate Professors:* D. B. Faulkner, R. L. Fernando, C. N. Graves, W. L. Hurley, D. J. Kesler, K. H. Kline, K. W. Koelbeck, M. R. Murphy, J. E. Novakowski, L. H. Thompson, R. E. Warner, B. A. White  
*Assistant Professors:* H. A. Brady, J. K. Drackley, M. Ellis, H. R. Gaskins, R. W. Johnson, R. H. McCusker, D. J. Miller, J. Odle, M. B. Wheeler

**GRADUATE DEGREE PROGRAMS**

The Department of Animal Sciences offers graduate work leading to the master of science and doctor of philosophy degrees. Fields of specialization include animal breeding and genetics, animal behavior, biochemistry, environmental physiology, immunobiology, meat science and muscle biology, microbiology, nutrition, systems of animal management and production, physiology of lactation, and physiology of reproduction. Beef and dairy cattle, horses, poultry, sheep, swine, and a variety of companion and laboratory animals are available for study.

**ADMISSION**

Candidates for admission to the M.S. and Ph.D. programs must have a bachelor's degree from accredited institutions equivalent to those from the University of Illinois at Urbana-Champaign. A grade-point average of 4.0 or higher (A = 5.0) for the last 60 hours of undergraduate work and for any graduate study is required for admission. Students must take the Graduate Record Examination and are strongly recommended to take the advanced test in chemistry or biology. Emphasis is placed on a student's interest and ability in research as demonstrated by previous work and letters of recommendation.

**MASTER OF SCIENCE**

Students must complete a minimum of 8 units of graduate credit, including 5½ units of lecture and laboratory classes, ½ unit of seminar, and 2 units of thesis research. At least 3 units of credit must be in 400-level courses, including at least 2 units in animal sciences and at least ½ unit of lecture and laboratory classes. Students will be expected to register for graduate seminar (0 to ½ unit of credit) during each semester of study. A comprehensive oral examination concerning the thesis and other areas of animal agriculture will be required.

**DOCTOR OF PHILOSOPHY**

Doctoral candidates must complete a minimum of 16 units of credit beyond the requirements for the M.S. degree, including 7 units of advanced lecture and laboratory courses, 1 unit of seminar, and 8 units of thesis research. Students must pass preliminary and final examinations administered by committees appointed by the dean of the Graduate College. The final examination is limited to a presentation and defense of the thesis research.

**SPECIALIZATION IN GENETICS**

The Department of Animal Sciences offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

**FINANCIAL AID**

Financial aid for graduate students in animal sciences is available in the form of fellowships, teaching and research assistantships, tuition and partial fee waivers, and traineeships. Qualified candidates are considered for financial support upon application. Graduate students making satisfactory progress toward their degree generally receive a full tuition waiver and a partial fee waiver, as well as a stipend.

**ANTHROPOLOGY**

*Head of the Department:* Janet D. Keller  
*Director of Graduate Studies:* F. K. Lehman

*Correspondence and Information:* Graduate Secretary, Department of Anthropology, University of Illinois at Urbana-Champaign, 109 Davenport Hall, 607 South Mathews Avenue, Urbana, IL 61801; (217) 333-0874

**GRADUATE FACULTY**

*Professors:* E. Giles, D. C. Grove, J. F. Hill, J. D. Keller, L. L. Klepinger, F. K. Lehman, E. Mayer, D. W. Plath, O. Soffer, N. E. Whitten, Jr.  
*Associate Professors:* S. H. Ambrose, D. J. Brewer, P. A. Garber, A. Gottlieb, R. B. Lewis, T. J. Riley, M. Saul, T. R. Turino  
*Assistant Professors:* N. Abelnmann, S. D. Gillespie, W. F. Kelleher, S. R. Leigh, H. I. Silverman, A. Torres  
*Emeritus Professors:* C. J. Barcisz, E. M. Bruner, C. E. Cunningham, H. A. Gould, C. M. Keller, B. Nettl, R. T. Zuidema

**GRADUATE DEGREE PROGRAMS**

The Department of Anthropology offers graduate work leading to the master of arts and the doctor of philosophy degrees.

**ADMISSION**

Students without the equivalent of this department's undergraduate concentration may be admitted to either degree program, but will be required to make up deficiencies in their background in anthropology. In addition to the Graduate College admission requirements, students not required to take the TOEFL are required to submit Graduate Record Examination scores.

**MASTER OF ARTS**

The master's degree can be a first stage toward the doctorate or may be used by students wishing to apply a knowledge of anthropology to some related field. Candidates for the master's degree must complete at least 8 units of graduate credit and present a thesis or paper in lieu of a thesis acceptable to his or her adviser and another member of the graduate faculty within the department. At least 3 units must be at the 400 level, and 2 of these units must be in anthropology.

**DOCTOR OF PHILOSOPHY**

Requirements for the Ph.D. include 24 units of graduate course work or 16 units beyond the M.A., a preliminary examination, a thesis, and a final examination. The preliminary examination consists of a predissection research paper, a proposal for doctoral research, and a written examination designed by the student's doctoral committee followed by a two-hour oral examination. The final examination is a defense of the doctoral thesis. High proficiency in one or reading ability in two foreign languages is required; however, statistics, computer modeling, faunal analysis, or similar expertise may be used in lieu of one foreign language. Fieldwork is strongly recommended, although not required.

**RESEARCH INTERESTS AND FACILITIES**

Courses and individualized study provide broad coverage of socio-cultural, linguistic, archaeological, and physical anthropology. The department provides special emphases in the analyses of state ideologies and cultural transformations; complex societies in transition; kinship and gender relationships; symbolism, cosmology, art, and religion; politics, economics, and ethnicity; language and culture; ethnomusicology; text and narrative; formal analysis and mathematical modeling; medical anthropology; agricultural origins, evolution, and development; hunter-gatherer adaptations; diet and nutrition; paleoecology and paleobiology; comparative and analytical osteology; and nonhuman primate evolution, morphology, behavior, and ecology. The department's Laboratory of Anthropology has constituted archaeological, paleoethnobotany, faunal analysis, human biology, casting, stable-isotope analysis, and ethnographic laboratories, and developing visual arts and networked computer laboratories.

Departmental funds are available for graduate students' summer field research. An archaeology field school is held at various locations in Illinois and occasionally elsewhere (location varies from year to year). Graduate student programs are enriched by close departmental relationships with the interdisciplinary area studies centers on campus, African, East Asian and Pacific, Latin America and Caribbean, and Russian and East European, and with the Afro-American Studies and Research Program, Women's Studies Program, La Casa Cultural Latina, Office of Women in International Development, World Heritage Museum, Museum of Natural History, Krannert Art Museum, and the Graduate College Program in Ancient Technologies and Archaeological Materials.

Agreements between the University and various governments and institutes facilitate research in many nations. Training is available in various languages, including Quechua, Japanese, Chinese, Russian, Indonesian, Thai, Burmese, Swahili, Hausa, Lingala, Wolof, Arabic, and Shona. Students have ready access to the extensive computer facilities of the University and to the department's facilities, which include microcomputers, printers, software, and mainframe computer terminals, a graphic digitizer and color printer, photographic

and video equipment, and other research-oriented hardware and software. The *Journal of the Steward Anthropological Society*, edited by graduate students, has been published since 1969.

#### FINANCIAL AID

University fellowships and, for underrepresented minorities, Graduate College fellowships, teaching and research assistantships, and a few separate tuition and service fee waivers (tuition and service fee waivers accompany fellowships and assistantships) provide variable levels of funding for most graduate students who do not hold external awards. Foreign Language and Area Studies (FLAS) fellowships are available through various area centers. Extensive contract archaeology programs in the department provide support and research employment for graduate students, as does the U.S. Army Construction Engineering Research Laboratory in North Champaign.

## ARCHITECTURE

*Director of the School:* R. Alan Forrester

*Chair of Graduate Programs:* Hub White

*Correspondence and Information:* Graduate Office, School of Architecture, University of Illinois at Urbana-Champaign, 117 Architecture Building, 608 East Lorado Taft Drive, Champaign, IL 61820; (217) 244-4723

#### GRADUATE FACULTY

*Director of the School:* R. Alan Forrester

*Associate Director of the School:* Hub White

*Associate Director for Undergraduate and Administrative Affairs:* Art Kaha

*Professors:* J. G. Albrecht, M. M. Ali, J. R. Anderson, B. Bognar, R. A. Forrester, J. S. Garner, B. L. Hutchings, M. K. Kim, H. J. Miller, R. T. Mooney, R. G. Ousterhout, H. S. Plummer, R. B. Riley, J. P. Warfield, H. C. White, D. J. Wickersheimer

*Associate Professors:* M. J. Andrejaski, K. H. Anthony, R. J. Betts, E. H. Clay, C. M. Dry, W. H. Erwin, L. A. Jeffers, M. T. McCulley, J. S. Poss, R. E. Schmitt, R. J. Selby, J. E. Simon, W. J. Voelker

*Assistant Professors:* P. J. Armstrong, M. Boubekri, K. J. Hinders, P. S. Kruty, A. Lapunzina, C. G. Lewis, A. L. Marshall, J. T. Reese

#### GRADUATE DEGREE PROGRAMS

The School of Architecture offers three graduate programs, each leading to the master of architecture degree: Track 1, a one-year program for students holding a five-year bachelor of architecture professional degree; Track 2, a two-year program for students holding a four-year bachelor of science in architectural studies (or similar degree in architecture); and Track 3, a program of variable length for students holding a bachelor's degree in any field other than architecture. Tracks 2 and 3 programs are professional degree programs accredited by the National Architectural Accreditation Board.

The School of Architecture, together with the graduate programs of business administration, finance, computer science, landscape architecture, urban and regional planning, and civil engineering, offers graduate programs leading to the following dual degrees: master of architecture and master of business administration, master of architecture and master of science in finance, master of architecture and master of computer science, master of architecture and master of urban planning, and master of architecture and master of civil engineering (construction engineering and management), and master of architecture and master of landscape architecture.

#### ADMISSION

The admission grade-point average for full-standing in the Graduate College and the School must be at least 4.0 (A = 5.0). For applicants who meet the other requirements but have an admission grade-point average under 4.0, admission with limited standing may be permitted if evidence of exceptional qualifications is presented. Admission with limited standing may also be permitted for applicants holding a degree less than equivalent to a degree from the University of Illinois at Urbana-Champaign, provided that equivalency can be established through additional course work.

Applicants are ranked and selected on the basis of undergraduate academic performance measured by an admission average determined from official college transcripts, a portfolio or brochure of applicant's past work in the architectural field, a statement of objectives, three letters of recommendation, and relevant professional work experience.

#### MASTER OF ARCHITECTURE (TRACK 1)

Applicants who hold the five-year bachelor of architecture degree are considered to have earned the first professional degree. For those

applicants, a one-year degree program has been developed emphasizing further study in depth of one optional area of concentration, and/or participation in research identical to the final phase of the Track 2 graduate program.

Candidates admitted to the Track 1 graduate program must complete at least 8 units of graduate work. Candidates must spend at least two semesters and earn at least half of the required units in residence. Candidates admitted with full standing may complete the program in one full-time academic year of study.

#### MASTER OF ARCHITECTURE (TRACK 2)

The two-year professional degree program, intended for students entering with a four-year baccalaureate in architectural studies, emphasizes further study in architectural disciplines, study in depth in one optional area of concentration, and/or participation in research.

The initial phase of the two-year graduate program comprised of advanced study in architectural disciplines, building upon the fundamentals established in a four-year undergraduate study program. This initial phase is a two-semester integrated sequence in architectural administration, construction, design, and structures. This work completes the common core of course work required of all candidates for the master of architecture professional degree.

Election of an optional area of concentration constitutes the final phase of the graduate program and allows students to devote two semesters of work to a specific field of their choice. The department offers optional areas of concentration in architectural design, architectural history and historic preservation, architectural management, architectural practice and technology, architectural structures.

Candidates admitted with full or qualified standing to the two-year professional degree program must complete at least 15½ units of graduate work. Candidates must spend at least four semesters and earn at least half of the required units in residence. Candidates admitted with full standing may complete the program in two full-time academic years of study.

#### MASTER OF ARCHITECTURE (TRACK 3)

The variable-length professional degree program has been designed for applicants who have a bachelor's degree in any field other than architecture. Emphasis is placed on the development of sufficient background in introductory architectural studies so that the applicants may successfully complete the equivalent of the two-year graduate program described above.

Applicants accepted into the Track 3 program will initially be admitted with limited standing. Full standing may be attained by completion of introductory architectural studies. Once full standing is attained, a minimum of 13½ units of graduate work is required for completion.

The time necessary to complete the program will depend on the nature of undergraduate course work completed by the applicant and on the optional area selected.

#### MASTER OF ARCHITECTURE AND MASTER OF URBAN PLANNING

This double degree program offers an opportunity to obtain an education for a career that combines the disciplines of architecture and planning. The program requires a match of related subject areas from the two departments in order to meet the requirements for each degree. These areas include: housing/community development, preservation/preservation planning, and urban design/environmental planning and land use. For entry into this program, applicants must satisfy the admission requirements of each academic unit. Application for admission may be made either simultaneously to both units or in sequence.

Candidates entering the program with a four-year baccalaureate in architectural studies must complete at least 20½ units of graduate work and, if admitted with full standing, may complete the program in six semesters and one summer session. Candidates entering the program with a five-year bachelor of architecture degree must complete at least 16 units of graduate work and, if admitted with full standing, may complete the program in four semesters and a summer session.

#### MASTER OF ARCHITECTURE AND MASTER OF BUSINESS ADMINISTRATION, MASTER OF SCIENCE IN FINANCE, OR MASTER OF COMPUTER SCIENCE

Three double master's degree programs related to the architectural management option prepare graduate degree candidates for the broad range of management activity now developing in architectural practice. Work in the architectural management option in one of these areas can lead to one of the following double master's degree combinations.



nations: master of architecture and master of business administration, master of architecture and master of science in finance, and master of architecture and master of computer science.

For entry into one of these programs, applicants must satisfy the admission and performance requirements of each academic unit. Application for admission may be made simultaneously to both units, or admission to one unit may be sought after gaining entry to the other.

Candidates entering one of these double degree programs with a four-year baccalaureate in architectural studies must complete 21½ units of graduate work, except that the combination of master of architecture and master of computer science degrees requires 18½ units plus 9 semester hours of prerequisites in computer science. If admitted with full standing, students can complete the program in five semesters. Candidates entering the program with a five-year bachelor of architecture degree must complete at least 16 units of graduate work and, if admitted with full standing, may complete the program in four semesters.

#### **MASTER OF ARCHITECTURE AND MASTER OF CIVIL ENGINEERING (CONSTRUCTION ENGINEERING AND MANAGEMENT)**

This double degree program offers qualified applicants the opportunity to develop competence in a career that combines the disciplines of architecture and civil engineering (construction engineering and management). For entry into this program, applicants must satisfy the admission and performance requirements of each academic unit. Application for admission should be made to the School of Architecture. Admission to the other unit may be sought after the first semester of graduate study in architecture.

Candidates entering the program with a four-year baccalaureate in architectural studies must complete at least 21½ units of graduate work and, if admitted with full standing, may complete the program in five semesters. Candidates entering the program with a five-year bachelor of architecture degree must complete 16 units of graduate work and, if admitted with full standing, may complete the program in four semesters.

#### **FINANCIAL AID**

Financial aid for graduate students in architecture is available in the form of fellowships, teaching and research assistantships, and tuition and partial fee waivers. Qualified candidates are considered for financial support upon application.

#### **ARMS CONTROL, DISARMAMENT, AND INTERNATIONAL SECURITY**

*Faculty Director:* Stephen P. Cohen

*Correspondence and Information:* Program in Arms Control, Disarmament, and International Security (ACDIS), University of Illinois at Urbana-Champaign, 330 Davenport Hall, 607 South Mathews Avenue, Urbana, IL 61801

#### **GRADUATE PROGRAMS**

ACDIS cooperates with existing academic units to support the application of disciplinary perspectives to the problems of peace and war. It does not offer academic degrees. Courses related to arms control, peace studies, and international security are developed and taught by faculty affiliated with ACDIS from the following departments or colleges: anthropology, astronomy, comparative literature, history, philosophy, physics, political science, and nuclear engineering. Graduate credit is offered through departments, area studies centers, or colleges of the University. ACDIS maintains a working research library, organizes seminars, workshops, and conferences, and produces and distributes a variety of publications featuring faculty and student research. The program consists of six subareas: the Politics, Ethics, and Technology of Peacekeeping Project; the South Asian Security Project, the European Security Project; the Unit for Cultural, Moral, and Legal Elements of International Relations; the War and Society in History Project, and the Ireland Seminar.

#### **FINANCIAL AID**

ACDIS offers small number of graduate student research assistantships and fellowships working with faculty on specific research projects. All graduate fellowships and assistantships provided by ACDIS are accompanied by a tuition and service fee waiver provided by the Graduate College.

#### **ART AND DESIGN**

(Including Art Education, Art History, Ceramics, Glass, Graphic Design, Industrial Design, Metals, Painting, Photography, Printmaking, and Sculpture)

*Director:* Theodore Zernich

*Correspondence and Information:* D. Pilcher, Coordinator of Graduate Programs, School of Art and Design, University of Illinois at Urbana-Champaign, 131 Art and Design Building, 408 East Peabody Drive, Champaign, IL 61820; (217) 333-0642

#### **GRADUATE FACULTY**

*Professors:* M. Arends, R. Blakley, W. Carlson, K. Carls, D. Colley, D. Cox, P. Fagan, J. Fineberg, M. Franciscano, F. Gallo, L. Grucza, G. Hardiman, P. Isherwood, T. Kovacs, S. Krepp, H. Maguire, C. Martens, B. Nettles, S. Orso, D. Pilcher, D. Rowan, J. Savage, D. Socha, A. Wroblewski, B. Youngman, T. Zernich  
*Associate Professors:* D. Bushman, J. Chardiet, A. Glaze, G. Guthrie, A. Hedeman, E. Hostetter, B. Kendrick, R. Kotoske, R. Kovatch, K. Manthorne, A. Mette, D. Moses, P. North, J. Rascheff, L. Robbenolt, D. Ryan, R. Springfield, C. Stephens, B. Theide, T. Thompson, T. Van Laar

*Assistant Professors:* K. Chmielewski, B. Delacruz, N. Gardner, N. Goggin, R. Gohl, P. Kurlse, E. Maguire, R. Schwartz, E. Scott, J. Squier, S. Vanka, J. Wood

#### **GRADUATE DEGREE PROGRAMS**

The School of Art and Design offers the master of arts in art education and in art history, the master of fine arts, the doctor of education in art education, and the doctor of philosophy in art history. The Graduate College admission requirements apply for all programs.

#### **MASTER OF ARTS IN ART EDUCATION**

The program of study leading to the degree of master of arts in art education is designed to provide advanced professional preparation for art teachers and supervisors. A minimum of 8 units of study is required for the degree. Three units must be taken at the 400 level, all of which must be in art education graduate seminars. In addition to professional courses in art education, students may elect course work in drawing, painting, sculpture, papercasting, printmaking, photography, cinematography, ceramics, glassworking, metalsmithing, and art history. Specific course selection is determined in consultation with the student's adviser. No thesis is required. While a majority of applicants to this program hold valid teaching certificates, applicants with certification-related deficiencies may be admitted to the program. However, graduate credit cannot be granted for courses taken to make up such deficiencies. Candidates must spend at least two semesters or the equivalent in residence. Applicants currently employed as teachers may apply for residence credit for summers-only enrollment.

#### **MASTER OF ARTS IN ART HISTORY**

This program provides basic preparation for teaching at the college level, background in the history of art for museum work, and preliminary study for the doctoral degree. In addition to the general requirements, the prerequisite for admission is ordinarily an undergraduate degree in art history or a strong preparation in related humanistic studies. Applicants with little background in art history but who have done exceptionally well as undergraduates in other disciplines will be seriously considered. A minimum of 8 units is required for the degree. At least 6 units must be in the history of art and architecture, of which at least 4 units must be in art history graduate seminars. For those interested in art museum training, special courses in museum studies are offered by the staff of the Kranzart Art Museum. Proficiency in French or German must be demonstrated by the end of the first year of residence. Before the degree is conferred, candidates are required to pass an examination on the general field of art history. A thesis is required.

#### **MASTER OF FINE ARTS**

The degree of master of fine arts in art and design with fields of specialization in ceramics, glass, graphic design, industrial design, metals, painting, photography, printmaking, and sculpture is designed to prepare qualified individuals for distinctive achievement in the professional area of their choice. Applicants should clearly indicate the intended specialization on the application for admission. A minimum of 16 units of graduate credit is required for the M.F.A. degree. Individual studio space and specialized resources essential to the acquisition of a high-quality professional education are available to students in all areas of study. A graduation exhibition of creative

work is required. Candidates must spend a minimum of four semesters or the equivalent in residence.

Admission is determined by a faculty review of portfolio, records of previous education and experience, letters of recommendation, and other significant achievements that may be viewed as predictors for success in the program.

#### DOCTOR OF EDUCATION IN ART EDUCATION

The program leading to the degree of doctor of education in art education is designed to prepare qualified art educators for careers in college-level teaching and research. Applicants for admission must hold a master's degree in art education or the equivalent from an accredited institution. A minimum of two years of acceptable teaching experience is required. Admission is determined by examinations, personal interviews, records of previous education and experience, and letters of recommendation. Applicants should present credentials well in advance of their first registration. A minimum of 16 units of course work beyond the master's degree is required.

#### DOCTOR OF PHILOSOPHY IN ART HISTORY

The program leading to the degree of doctor of philosophy in art history is designed to prepare students for scholarship and for teaching at the college level. Applicants must have the master of arts in art history or the equivalent. Students earning the master's degree at the University of Illinois at Urbana-Champaign must pass the qualifying examination with a high score and write a thesis or research paper of superior quality in order to be admitted to the doctoral program. Students taking the master's degree elsewhere must satisfy the Graduate Committee on the History of Art and Architecture as to their preparation to undertake work on a doctoral level. Students must have a reading knowledge of French and German. Students usually elect to specialize and write a thesis in one of various fields, including Medieval, Renaissance, Baroque, Modern, American, and Oriental. In addition, students elect a minor in another art history field.

#### RESOURCES

Resources for graduate students in art and design include the Krannert Art Museum's excellent permanent collections and changing exhibitions; the Ricker Library of Art and Architecture, one of the largest art and architecture libraries in the nation; the Krannert Center for the Performing Arts; the Center for Graphic Technologies, which includes up-to-date computer, digital processing, electronic networking, and printing facilities; and a variety of lectures, symposia, musical programs, dramatic productions, and other cultural events associated with a large and progressive university.

#### FINANCIAL AID

Fellowships, assistantships, and tuition and service fee waivers are awarded each year on a competitive basis, with consideration given to the applicant's grade-point average and, in the case of applicants for the M.F.A. programs, quality of creative work.

### ASIAN STUDIES

(Including Arabic, Burmese, Chinese, Hebrew, Hindi, Indonesian, Japanese, Korean, Persian, Sanskrit, and Thai)

*Correspondence and Information:* East Asian, Southeast Asian, and Pacific Studies: Department of East Asian Languages and Cultures, University of Illinois at Urbana-Champaign, 608 South Mathews Avenue, Urbana, IL 61801; South and West Asian Studies: Program in South and West Asian Studies, University of Illinois at Urbana-Champaign, 381 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801

#### GRADUATE FACULTY

*Professors:* E. Accad, N. Aggarwal, P. R. Balgopal, E. M. Bruner, C. Capwell, C. C. Cheng, S. P. Cohen, C. E. Cunningham, P. B. Ebrey, E. Giles, D. G. Goodman, J. Hill, H. H. Hock, T. Hymowitz, B. Kachru, Y. Kachru, J. D. Keller, C. W. Kim, B. B. Kling, F. K. Lehman, B. Netti, D. W. Plath, G. G. Porton, S. Rashid, P. Schran, C. C. Stewart, K. Taira, G. L. Tikku, R. P. Toby, M. G. Weinbaum, G. T. Yu

*Associate Professors:* B. Bognar, R. W. Chow, D. M. Desser, S. A. Douglas, P. N. Gregory, J. K. Haboush, R. C. Jennings, S. Johnson, W. L. Macdonald, H. P. Maguire, J. L. Packard, J. Peterson, T. J. Riley, M. M. Saul, M. M. Shorish, K. E. Southwood, M. Wagner  
*Assistant Professors:* N. A. Abelmann, H. Butler, Z. Cai, K. Doak, A. P. Elhanse, S. Fuji, V. J. Hoffman-Ladd, D. A. Pan, R. Pandharipande, W. T. Pitard, L. J. Unnevehr

#### GRADUATE DEGREE PROGRAM

The Department of East Asian Languages and Cultures administers, in cooperation with the Program in South and West Asian Studies where applicable, a two-year program of language and area courses leading to the master of arts degree with regional concentrations in East Asia, the Middle East, South Asia, and Southeast Asia. The program is a basic preparation in language and area training, both for students intending to proceed to the Ph.D. degree in a related field and for students preparing for a career not requiring the doctorate. The Department of East Asian Languages and Cultures also administers a graduate minor in Asian studies in cooperation with various departments, allowing graduate students electing this minor to concentrate on East Asia, the Middle East, South Asia, or Southeast Asia, or a combination of two or more of these areas. At present, new master's and doctoral degree programs in East Asian Languages and Cultures were nearing approval. Potential applicants should contact the Department of East Asian Languages and Cultures for information on these programs.

#### ADMISSION

Candidates for admission must meet at least the minimum standards established by the Graduate College for graduate study at the University of Illinois at Urbana-Champaign, but final selection is determined by a committee of center faculty members. All students must submit GRE scores. Students whose native language is not English must score at least 600 on the TOEFL to be eligible for admission at full graduate standing. Applicants must specify one of the regional concentrations at the time of application. Although prior language and area training relating to the regional concentration is highly desirable, it is not required for admission. Students entering without any prior training or experience, however, may be required to take, without credit toward the degree, such work as the adviser may deem necessary to make up any deficiencies.

#### MASTER OF ARTS

Candidates must complete 9 units of work in area studies distributed among at least three disciplines and chosen from an accepted list of courses, demonstrate a reading knowledge of one language related to the candidate's regional concentration by satisfactory completion of an examination or appropriate course work, pass an oral examination covering the area studies taken while in residence, and complete two satisfactory research/seminar papers. No thesis is required.

#### MINORS IN ASIAN STUDIES

Candidates for a master's degree who elect Asian studies as a minor must earn at least 2 units of graduate credit in approved courses in at least two departments outside the major department.

Doctoral candidates who elect Asian studies as a minor must earn at least 4 units of graduate credit in approved courses in at least two departments outside the major department. Also, before the completion of course requirements for the degree, doctoral candidates must complete satisfactory an examination in an appropriate Asian language.

### ASTRONOMY

*Chair of the Department:* Ronald F. Webbink

*Correspondence and Information:* Department of Astronomy, University of Illinois at Urbana-Champaign, 103 Astronomy Building, 1002 West Green Street, Urbana, IL 61801; (217) 333-3090

#### GRADUATE FACULTY

*Professors:* R. M. Crutcher, H. R. Dickel, J. R. Dickel, I. Iben, Jr., J. B. Kaler, F. K. Lamb, K.-Y. Lo, D. Mihalas, T. Ch. Mouschovias, M. Norman, L. L. Smarr, L. E. Snyder, L. A. Thompson, W. D. Watson, R. F. Webbink

*Associate Professors:* Y.-H. Chu, S. A. Lamb, E. C. Sutton

*Assistant Professors:* P. McCullough, M. Meixner

*Emeritus Professors:* J. H. Cahn, E. C. Olson, S. Rosen, G. Swenson, K. M.

Yoss

#### GRADUATE DEGREE PROGRAMS

The Department of Astronomy offers graduate work leading to the master of science and doctor of philosophy degrees. The goal of the graduate program in astronomy is to provide broadly based training in modern astrophysics and astronomy for a small and carefully selected student body. Individually designed programs involving close contact with faculty members are encouraged, and an understanding of fundamental principles and techniques and their applications to research problems of current interest is emphasized. Students

are expected to acquire a solid knowledge of modern physics as well as of general astronomy. A major objective is to maintain an exciting intellectual environment in which students can develop their scientific creativity and their enthusiasm for astronomy.

#### ADMISSION

Admission decisions are made once a year in the spring. Applications for admission and financial assistance must be received by February 15. Normal entrance requirements are a bachelor's degree in astronomy, physics, physical chemistry, or mathematics, and a one-year course in descriptive astronomy. A minimum grade-point average of 4.0 ( $A = 5.0$ ) and satisfactory scores on the Graduate Record Examination (verbal, quantitative, and advanced physics portions) are requisites for admission. Financial assistance is usually provided to graduate students.

#### MASTER OF SCIENCE

For the M.S. degree, 8 units of study in graduate courses are required. There are no thesis or foreign language requirements. The 8 units of course work may not include any research units (such as 490, 497, 499) except 1 unit of 490. At least 4 units must be in astronomy 400-level courses, 2 of which will be in Theoretical Astrophysics 402 and in Observational Astronomy 403. The remaining 4 units must be selected from approved courses in astronomy, physics, or mathematics, with at least 1 of these units in a 400-level course.

#### DOCTOR OF PHILOSOPHY

The Ph.D. degree requires completion of 24 units in courses in astronomy and related fields (at least 8 of which involve individual study and research), satisfactory performance on a general qualifying examination no later than the beginning of the third year of study, and completion of an original research project culminating in a thesis publishable in whole or in part. Further information on exact degree requirements may be obtained from the department.

#### FACULTY RESEARCH INTERESTS

Research activity includes astrophysical fluid dynamics and theory of star formation; radiation hydrodynamics; observational and theoretical investigation of the solar system (comets, planets, cosmochronology); stars (stellar structure and evolution, gravitational collapse, nucleosynthesis, novae, supernovae, stellar atmospheres, binaries, stellar statistics, pulsars); the interstellar medium (planetary nebulae, molecular clouds, cosmic rays, supernova remnants, galactic structure); cosmic magnetic fields extragalactic systems (galaxies: their structure, evolution, and dynamic behavior; quasars); and large-scale structure in the universe.

Astrophysics is also a strong research interest of several faculty members in the Department of Physics. Current activity in physics centers on the physics of neutron stars, white dwarfs, compact X-ray sources, and supernova ejecta, with broad-ranging interests in the application of modern physics to astronomy. Students in astronomy may select thesis supervisors from faculty members in the Department of Physics as well as in the Department of Astronomy.

#### RESEARCH FACILITIES

The department is a partner in a millimeter-wavelength radio telescope array, located at Hat Creek in Northern California, and operated jointly with UC Berkeley and the University of Maryland. A 40-inch-diameter reflecting telescope equipped with a CCD, located on Mt. Laguna in Southern California, is operated jointly with San Diego State University, which also operates 16-inch and 24-inch telescopes occasionally used by University of Illinois faculty and students. Transportation costs are normally provided. Both optical and radio astronomers frequently obtain observing time on telescopes at national observatories at Kitt Peak, Cerro Tololo, Green Bank, and Socorro. Computations are performed on a variety of University computers, including an IBM 3081 and Convex C-240, accessed via remote terminals in the Department of Astronomy. Simultaneous time sharing and batch processing with unusual speed are features of the computational system, which is among the most advanced university-based systems in the nation. A powerful local area network (LAN), including Sun 4 and SPARC workstations and file servers for interactive image processing, is available in the department. This LAN also provides access to the Cray Y-MP, Convex C3, and Connection Machine CM-2 and CM-5 supercomputers at the National Center for Supercomputing Applications on the campus. These computers are used for production data processing (radio synthesis imaging), as well as for theoretical modeling.

#### FINANCIAL AID

University fellowships are available and may be combined with part-time teaching assistantships. Most resident students are supported for their first two or three years by half-time teaching assistantships. The typical teaching assistant takes three graduate courses per semester and spends twenty hours per week handling quiz sections in elementary astronomy courses. Teaching assistantships are responsible positions, and the concomitant duties are considered to be a valuable part of the student's educational experience. Advanced students may compete for research assistantships offered by faculty members whose research is partially supported by federal grants.

#### ATMOSPHERIC SCIENCES

Head of the Department: D. Wuebbles

Correspondence and Information: Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, 101 Atmospheric Science Building, 105 South Gregory Street, Urbana, IL 61801; (217) 333-2046

#### GRADUATE FACULTY

Professors: K. V. Beard, M. Mak, M. Schlesinger, J. E. Walsh, R. B. Wilhelmson, D. J. Wuebbles

Associate Professor: M. Ramamurthy, R. M. Rauber, W. A. Robinson  
Assistant Professors: M. Ting

#### GRADUATE DEGREE PROGRAM

Graduate programs leading to the master of science and doctor of philosophy degrees are offered.

#### ADMISSION

Applicants for admission to this program must satisfy the general requirements for admission to the Graduate College. Previous training in the atmospheric sciences is not essential. It is strongly recommended, however, that students who intend to study for advanced degrees in the atmospheric sciences know the fundamentals of classical physics and applied mathematics. There is no foreign language requirement.

#### MASTER OF SCIENCE

The requirements for the degree of master of science in atmospheric sciences correspond to the general requirements of the Graduate College for the M.S. degree, with the additional requirement of a minimum of 4 units to be taken in graduate courses in atmospheric sciences, excluding the thesis (499). Therefore, the total requirements are 8 units, 3 of which must be from courses numbered in the 400 series and 4 of which must be in atmospheric sciences. A written thesis, which may account for 1 or 2 units of credit, is also required. Further information on exact degree requirements can be obtained from the department.

#### DOCTOR OF PHILOSOPHY

All candidates for the Ph.D. degree must satisfy the general requirements of the Graduate College and are required to pass a qualifying examination on the basic principles of atmospheric science, a preliminary examination based on a written thesis proposal, and a final examination based on the completed thesis. Further information on course requirements and these examinations can be obtained from the department.

#### RESEARCH INTERESTS

These degree programs are designed for students interested in research and application in many aspects of atmospheric sciences. The areas of research include the physics of aerosol and precipitation; atmospheric chemistry; observational, theoretical, and modeling of studies of clouds and severe storms; synoptic and mesoscale meteorology; numerical weather prediction; weather modification; four-dimensional data assimilation; stratospheric dynamics; low-frequency variability; nonlinear atmospheric dynamics; climate variability and climate modeling, including chemical, radiative, and transport effects; atmospheric radiative processes; human and natural perturbations to global ozone and climate; relating science to policymakers; and radar and satellite meteorology.

#### RESEARCH FACILITIES

The department maintains state-of-the-art computing resources for use by faculty, researchers, students, and staff. These resources include a variety of powerful UNIX™ workstations, and Macintosh computers. At present, there are five HP workstations devoted to real-time weather data gathering, processing, and dissemination, and for use in teaching. Ten other workstations are used to perform research



in areas of special interest. The majority of users also conduct work on any of the fifty Macintosh computers located in the department.

All of the computers in the department are connected by a 10 megabit-per-second ethernet network, which is in turn connected to the 100 megabit-per-second fiber-optic campus network, UIUCnet. UIUCnet is part of the global Internet computer network, which provides access to computers throughout the world, notably to the supercomputers at the nearby National Center for Supercomputing Applications.

The department collects and stores a variety of real-time weather information. Up-to-the-minute National Weather Service facsimile charts, as well as hourly images from the GOES satellite, are stored in the synoptic lab. The department also makes information available over the computer network, and is well known on the Internet for providing a wide range of real-time weather information through its information servers. The UofI Weather Machine is a gopher server which delivers over 80,000 products a day to over 5,000 different machines on the Internet. The address used to access the server is [www.atmos.uiuc.edu](http://www.atmos.uiuc.edu).

The recent implementation of *The Daily Planet*™ has significantly expanded the scope of accessible information. *The Daily Planet*™ is a full-scale World Wide Web environmental information server, which capitalizes on the flexibility of the NCSA Mosaic interface. *The Daily Planet*™ provides the user with current weather images, MPEG animation loops, information about the UIUC Department of Atmospheric Sciences, information about the atmospheric sciences community, hyper-media instructional modules on topics in meteorology, and pointers to other sources of information and data on the Internet. The URL (uniform resource locator) used to access the server is <http://www.atmos.uiuc.edu/>.

#### FINANCIAL AID

Financial aid is available in the form of research and teaching assistantships, University fellowships, and waivers of tuition and service fees.

### BIOENGINEERING

*Chair of Bioengineering:* Richard L. Magin

*Correspondence and Information:* Bioengineering Office, University of Illinois at Urbana-Champaign, 53 Everett Laboratory, 1406 West Green Street, Urbana, IL 61801

#### GRADUATE FACULTY

*Professors:* L. Barr, S. D. Brown, J. C. Chato, L. L. Christianson, H. S. Ducoff, F. Dunn, A. S. Feng, L. A. Frizzell, B. M. Hannan, J. E. Heath, S. I. Helman, E. G. Jakobsson, A. L. Johnson, D. A. Lauffenburger, P. C. Lauterbur, R. L. Magin, W. D. O'Brien, Jr., M. R. Paulsen, J. W. Phillips, S. I. Stupp, J. C. Thurmon, A. R. Twardock, W. C. Wagner  
*Associate Professors:* P. M. Best, R. B. Clarkson, J. M. Dawson, K. R. Holmes, B. J. Litchfield, N. R. Miller, M. H. Moenizadeh, B. Oakley II, G. J. Pijanowski, J. F. Reid, M. R. Simon, B. C. Wheeler  
*Assistant Professors:* Y. Bresler, M. D. Chambers, R. M. Fish, J. R. Gunderson, D. P. Lawrance, Z. P. Liang, M. E. Nelson, W. A. Olson, G. E. Riccio, N. V. Sahinidis, M. G. Strauss, S. Subramaniam, J. V. Sweedler, A. F. Vakakis, A. Webb, K. D. Wittrup

At this time, no graduate degree is offered in bioengineering. However, courses and research opportunities are currently offered in the following units: agricultural engineering, chemical engineering, electrical and computer engineering, general engineering, kinesiology, materials science and engineering, mechanical and industrial engineering, the College of Medicine, physiology and biophysics, rehabilitation education, theoretical and applied mechanics, veterinary biosciences, veterinary clinical medicine. Students interested in bioengineering graduate work should contact either the Bioengineering Office or the degree-granting department most nearly matching their interests.

### BUSINESS ADMINISTRATION

*Head of the Department:* Kent B. Monroe

*Correspondence and Information:* Ph.D. and M.S.B.A.: Department of Business Administration, University of Illinois at Urbana-Champaign, 350 Commerce West Building, 1206 South Sixth Street, Champaign, IL 61820

M.B.A.: M.B.A. Program Office, University of Illinois at Urbana-Champaign, 410 David Kinley Hall, 1407 West Gregory Drive, Urbana, IL 61801; (217) 244-8002

#### GRADUATE FACULTY

*Professors:* C. E. Blair, R. Engelbrecht-Wiggans, R. V. Evans, D. M. Gardner, J. F. Hennart, J. Hess, R. M. Hill, J. W. Kindt, P. Lansing, H. Leblebici, K. Monroe, G. R. Oldham, D. M. Roberts, M. E. Roszkowski, S. Sudman, H. Thomas  
*Associate Professors:* S. I. Cohen, C. Kulik, G. E. Monahan, J. F. Porac, Z. Ritz, A. Seth, M. J. P. Shaw, T. Smunt, D. Sudharshan, M. Tang, G. Willard  
*Assistant Professors:* E. Coupey, D. Chhajed, M. Farjoun, D. Johnson, F. Jourden, D. Kim, M. Kraatz, B. S. Liu, J. Mahoney, E. Moore-Shay, C. Motley, S. Narayanan, M. Pratt, N. Raman, T. Roehl, J. Rosa, R. A. Sanchez, T. Smunt, M. Strahilevitz, M. Viswanathan, J. Wade

#### GRADUATE DEGREE PROGRAMS

The Department of Business Administration offers the master of science in business administration (M.S.B.A.) and the doctor of philosophy (Ph.D.) in business administration. The College of Commerce and Business Administration offers a degree program leading to the master of business administration (M.B.A.). Joint professional degrees are offered with architecture (M.Arch./M.B.A.), law (J.D./M.B.A.), medicine (M.D./M.B.A.), engineering (M.S.E.E./M.B.A., M.S.I.E./M.B.A., M.S.M.E./M.B.A., M.S.G.E./M.B.A., M.S.C.E./M.B.A.), computer science (M.C.S./M.B.A.), journalism (M.S.J./M.B.A.), and education (M.E.d./M.B.A.) Students may also earn a B.A. in liberal arts and an M.B.A. or a B.A. in agriculture and an M.B.A.

#### ADMISSION

Admission to the graduate business programs is dependent upon an undergraduate degree with a scholastic average of at least B for the last 60 hours, acceptable scores on the Graduate Management Admission Test (GMAT), three letters of recommendation, and a statement of career goals. The average GMAT for the fall 1993 M.B.A. class was 600; the average grade-point average was 4.4 (A = 5.0).

Applicants for all programs whose native language is not English are also required to submit scores from the Test of English as a Foreign Language (TOEFL) and the Test of Spoken English (TSE). A minimum score of 600 must be achieved on the TOEFL. For the Ph.D. program, a minimum score of 230 on the TSE is required.

The master's programs can be started in August only. The Ph.D. program may be started in August or January; however, August is the preferred semester of entry. The application deadline is March 15 for the M.S.B.A. and August Ph.D. programs, and October 1 for January Ph.D. admission. The M.B.A. program has a rolling admissions process and begins making admissions decisions in January. Prospective students should apply by May 1.

#### MASTER OF BUSINESS ADMINISTRATION

The objective of the Illinois M.B.A. is to prepare a diverse set of men and women who have high potential to become and remain effective leaders in a global environment characterized by rigorous competition and continuous change. The course of study is integrated with other technical and professional skills. The program requires 18 units, which students complete in two years. The program begins in the fall semester and is offered on a full-time basis only. Students may have undergraduate degrees from any area of study.

The eighteen-course program is comprised of twelve core courses (six from the fundamental areas of behavioral, economic, and quantitative sciences; six from the functional areas of accounting, marketing, finance, production, operations, law, and policy and planning) and six focus, or elective courses. No evening or correspondence courses are offered. No exemptions or transfer credits are allowed.

Students may select electives from one specific area or a number of different areas. Some suggested elective areas include decision and information sciences, international business, finance, marketing, accounting, organizational behavior, entrepreneurship, technology and operations management, economics, and strategy and policy. Other elective areas include health care management, food and agribusiness management, and the management of technology.

The Illinois M.B.A. is currently revising its curriculum and plans to implement it in fall 1995. The program will still require 18 units to complete. It will feature an integrated core of 11 units (8 units of foundation/functional courses and 3 units of business environment courses). Students select a 7 unit professional track as their concentration. In addition to the areas listed above, students may consult with the M.B.A. program to design their own track. The Illinois M.B.A. will emphasize co-curricular activities designed to complement classroom experiences while further developing leadership skills. Activities will include communications, teamwork, and self-awareness workshops,

technical training in current computer software, and career services with a focus on internships and permanent placements.

All M.B.A. students complete a semester-long, noncredit computer competency sequence offered through the Office for Information Management. The sequence is offered during the fall semester of the first year. Students are provided with hands-on training in management tools of the profession, such as electronic mail, word processing, spreadsheet, data base management, and business graphics.

Illinois M.B.A. students also complete a communication series focusing on communication skills that are crucial to success in the job search and in one's career. A variety of formats is used to cover such topics as interviewing, persuasive writing, oral presentations, graphic communication, and communicating in teams. A communications consulting service offers students individual assistance with written, oral, and graphic communication.

A two-year Executive M.B.A. program is offered to experienced managers. Details may be obtained from the Executive M.B.A. Program, 218 Commerce West, 1206 South Sixth Street, Champaign, IL 61820.

#### **JURIS DOCTOR AND MASTER OF BUSINESS ADMINISTRATION**

The J.D./M.B.A. program promotes careers in which administration and law overlap, such as corporate and trust law. Students in this program complete at least 74 hours of law courses and 12 units of business courses. For more information on the J.D. degree, write to admission officer, 201 Law Building, 504 East Pennsylvania Avenue, Champaign, IL 61820.

#### **MASTER OF ARCHITECTURE AND MASTER OF BUSINESS ADMINISTRATION**

The M.Arch./M.B.A. program is designed to provide training for careers in which management and architecture overlap. This joint program enables students to fulfill the requirements for both degrees by completing a total of 21½ units, 12 of which are in business administration. For more information on this degree, write to Graduate Admission Officer, 117 Architecture Building, 608 East Lorado Taft Drive, Champaign, IL 61820.

#### **DOCTOR OF MEDICINE AND MASTER OF BUSINESS ADMINISTRATION**

The M.D./M.B.A. program is designed for medical doctors who anticipate administrative responsibilities. In addition to the requirements for the M.D. degree, the program requires 12 units in business administration. Students can finish the program in four full years, including three summers. For more information on the Medical Scholars Program, write to coordinator of the Medical Scholars Program, 190 Medical Sciences Building, 506 South Mathews, Urbana, IL 61801.

#### **MASTER OF SCIENCE IN ELECTRICAL ENGINEERING AND MASTER OF BUSINESS ADMINISTRATION**

The M.S.E.E./M.B.A. program encourages careers in professional engineering and the management of technology. Students in the joint program must complete a total of 18 units, 14 of which are in business administration. For more information, write to admission officer, Department of Electrical and Computer Engineering, 156 Everitt Laboratory, 1406 West Green Street, Urbana, IL 61801.

#### **OTHER ENGINEERING JOINT DEGREE PROGRAMS**

The master of science in industrial engineering/master of business administration program (M.S.I.E./M.B.A.), the master of science in mechanical engineering/master of business administration program (M.S.M.E./M.B.A.), the master of science in general engineering/master of business administration program (M.S.G.E./M.B.A.), and the master of science in civil engineering/master of business administration (M.S.C.E./M.B.A.) were created in response to a growing demand for industrial, mechanical, civil, and general engineers who are also professional managers. The M.S.I.E./M.B.A. and M.S.M.E./M.B.A. programs require a total of 20 units, 12 of which are in business administration; the M.S.C.E./M.B.A. requires 20 units, 14 of which are in business administration. The M.S.G.E./M.B.A. program requires 18 units, 12 of which are in business administration. For more information on the M.S.I.E./M.B.A. or M.S.M.E./M.B.A., write to Graduate Programs Office, 144 Mechanical Engineering Building, 1206 West Green Street, Urbana, IL 61801. For more information on the M.S.C.E./M.B.A., write to Graduate Admissions, 3108 Newmark CF Laboratory, 205 North Mathews, Urbana, IL 61801. For more information on the M.S.G.E./M.B.A., write to Graduate Admissions, 315 Transportation Building, 104 South Mathews Avenue, Urbana, IL 61801.

#### **MASTER OF COMPUTER SCIENCE AND MASTER OF BUSINESS ADMINISTRATION**

The M.C.S./M.B.A. allows students to earn both degrees in three years instead of the usual four. The program serves the application-minded computer scientist who seeks management skills. Requirements include 12 units from business administration and 9 units from computer science. For more information, write to Graduate Admissions, 2270 Digital Computer Laboratory, 1304 West Springfield Avenue, Urbana, IL 61801.

#### **MASTER OF EDUCATION AND MASTER OF BUSINESS ADMINISTRATION**

The M.Ed./M.B.A. was created in response to the growing demand for specialists in continuing education and professional development who also have an understanding of the management of projects, people, and resources. The program requires 12 units of M.B.A. course work, plus 8 units in the College of Education. For more information, write to Department of Administration, Higher, and Continuing Education, 334 Education Building, 1310 South Sixth Street, Champaign, IL 61820.

#### **MASTER OF SCIENCE IN JOURNALISM AND MASTER OF BUSINESS ADMINISTRATION**

The joint master of science in journalism/M.B.A. program permits students with an interest in business administration and print or broadcast journalism and management to earn both degrees. Students complete 12 units in business administration and 8 units of journalism course work. For more information, applicants should write to Department of Journalism, 119 Gregory Hall, 810 South Wright Street, Urbana, IL 61801.

#### **BACHELOR OF ARTS IN LIBERAL ARTS/MASTER OF BUSINESS ADMINISTRATION AND BACHELOR OF SCIENCE IN AGRICULTURE/MASTER OF BUSINESS ADMINISTRATION**

These programs allow students to earn two degrees in five years rather than the usual six. The programs integrate an undergraduate education with a professional education without diluting the quality or purpose of either. Through careful course selection and program planning, students complete the first year of the M.B.A. program during their senior year. This course work counts toward both degrees. Students complete remaining M.B.A. program requirements during their fifth year. For more information on the B.A. in liberal arts/M.B.A. program, write to 270 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801. For more information on the B.A. in agriculture/M.B.A. program, write to 314 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801.

#### **MASTER OF SCIENCE IN BUSINESS ADMINISTRATION**

The master of science in business administration is a 10- to 12-unit master's program best suited for those with a strong technical expertise in one of the concentrations offered within the Ph.D. program. The focus is on preparation for advanced study in the doctoral program or for a research-oriented position. The course work can usually be completed in four semesters. The program core consists of three areas of study: quantitative methods, behavioral science, and economics. These courses integrate, in the major functional areas, contributions of the qualitative, social, and behavioral sciences to administrative decision-making. A major must be specified from one of five areas offered within the Department of Business Administration: organizational behavior, business policy, marketing, international business, and decision and information science. A minor is required as well and can be chosen from another area within the Department of Business Administration or a related area outside the department or college. Admission to the program is highly selective.

Within the master of science in business administration program an option has been developed for international managers. The M.S.B.A. for International Managers is a fourteen-month master's degree program designed to meet the management development needs of organizations involved in international business. It is intended for experienced international managers and administrators who want to earn an advanced degree while gaining valuable experience in the world of American business. Students typically are experienced managers who possess unusual potential for future achievement in international business. Those who wish to specialize in a functional area may extend their program to two years.

In addition to formal course work, students participate in a series of management development seminars, which provide an overview of American business concepts and practices. Business and industry field trips, seminars with American executives, and other special activities provide another dimension to the program. A conference at

which students present papers on topics of special interest is held at the conclusion of the program.

#### DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION

This program offers an in-depth education in teaching and research in selected areas of business and administration. Doctoral students can specialize in marketing, organizational behavior, decision sciences, operations management, information systems, international business, and strategic management and policy. The program is intensive, flexible, and adapted to individual needs.

Each student's program entails sufficient study and preparation to achieve the following: (1) competence in a common core covering substantive and research methods courses, which are formulated by the faculty in each area; (2) in-depth expertise in a major area; (3) expertise in at least one area in addition to the chosen major area, with this minor area selected from within or outside the department; (4) teaching competence; (5) research or problem-solving competence.

Competency is determined by comprehensive written and/or oral examinations. Following successful completion of all course work and comprehensive examinations in major and minor areas, students must propose and gain approval of a thesis topic at a public colloquium. The final program requirement is the successful oral defense of the thesis.

For persons entering the program from an undergraduate program, the minimum requirements are 16 course units and 8 thesis units. Persons entering with a master's degree in business generally will need a minimum of 8 course units and 8 thesis units. The program usually is completed in four years, although students with a master's degree in business may require only three years.

#### INTERNATIONAL PROGRAMS

The department has worked with various language and social science faculty members to design master's and doctoral program options that address education for the growing internationalization of business. These are suited particularly for undergraduates prepared in foreign languages and cultures, international economics, and politics.

#### RESIDENCE REQUIREMENT

Master's degree candidates must maintain continuous full-time registration through the completion of their course work. Ph.D. candidates must maintain continuous registration through the approval of a dissertation proposal, unless a leave has been approved by the department. Joint degree students in the M.B.A. program must complete a minimum of two consecutive full-time semesters in the M.B.A. program.

#### RESEARCH INTERESTS

Faculty research interests are in the areas of marketing, organizational behavior, decision and information sciences, strategic planning and business policy, international business, accounting, economics, entrepreneurship, and finance. The College of Commerce and Business Administration houses computer facilities, a behavioral science laboratory, and a separate library. The college maintains contacts with industry and government through its Executive Development Center, Executive-in-Residence Program, Survey Research Laboratory, Bureau of Economics and Business Research, and several professional and scholarly journals edited by its faculty.

#### FINANCIAL AID

One fellowship and a number of scholarships are offered to first-year M.B.A. students. The Illinois M.B.A. offers Student Management Leadership Grants to outstanding M.B.A. students.

Most Ph.D. students receive some form of financial assistance. This assistance is likely to be in the form of a teaching or research assistantship, which includes a waiver of tuition and most service fees, and/or the award of a merit-based fellowship.

### CHEMICAL PHYSICS

Head of the Department of Chemistry: Gary B. Schuster

Head of the Department of Physics: David K. Campbell

Correspondence and Information: Students with undergraduate degrees in chemistry should direct inquiries and applications to the head, Department of Chemistry, University of Illinois at Urbana-Champaign, 108 Noyes Laboratory, 505 South Mathews Avenue, Urbana, IL 61801. Students with undergraduate degrees in physics should direct inquiries and applications to the Graduate Advising Office, Department of Physics, University of Illinois at Urbana-Champaign, 227 Loomis Laboratory of Physics, 1110 West Green Street, Urbana, IL 61801-3080.

#### GRADUATE DEGREE PROGRAMS

A chemical physics program leading to the doctor of philosophy makes it possible for students to gain the necessary background and perform original research in this interdisciplinary field of science. Fundamental research on many properties of molecular and solid-state systems is based on an understanding of chemistry, physics, and mathematics that can best be obtained by training in more than one department. Students may use the facilities in both the School of Chemical Sciences and the Department of Physics.

#### ADMISSION

Graduate College admission requirements apply. To be considered for admission, applicants should have an undergraduate degree in chemistry or physics with a strong background in the major field of chemistry or physics and more than the usual training in the other area. Those who received their degree in physics should have the equivalent of one semester each of organic and inorganic chemistry and one year of physical chemistry. Those who received their degree in chemistry should have the equivalent of one semester each of intermediate mechanics and intermediate electricity and magnetism. One year of mathematics beyond calculus is recommended. Any deficiencies should be removed during the first year of study.

#### DOCTOR OF PHILOSOPHY

In addition to taking a series of appropriate courses determined mainly by their research interests, students must pass either the qualifying examination in the Department of Physics or the set of cumulative examinations given in physical chemistry. A knowledge of basic quantum mechanics and statistical mechanics must also be demonstrated (for example, by passing the final examination in appropriate courses). In addition, students must pass an oral preliminary examination concerned with their preparation for doing research. Research for the thesis is performed under the direction of faculty members who are currently active in chemical physics. Many of these staff members are affiliated with the Materials Research Laboratory (MRL). MRL is a multidisciplinary facility shared by staff and students from the Departments of Physics, Chemistry, Materials Science and Engineering, Electrical and Computer Engineering, and other related departments that have common interests in materials science.

#### FINANCIAL AID

Students may apply for fellowships and assistantships from either the Department of Chemistry or the Department of Physics.

### CHEMICAL SCIENCES

(Including Biochemistry, Chemical Engineering, and Chemistry)

Director of the School: Stephen G. Sligar

Associate Director of the School: Denton R. Brown

Correspondence and Information: Director of the School of Chemical Sciences, University of Illinois at Urbana-Champaign, 106 Noyes Laboratory, 505 South Mathews Avenue, Urbana, IL 61801

The School of Chemical Sciences includes the Departments of Biochemistry, Chemical Engineering, and Chemistry. Study programs leading to the degrees of master of science and doctor of philosophy are offered in each of the departments as described in the following sections. The school structure is designed to meet the differing needs of the three departments and yet retain the advantages of a common approach to overlapping concerns. Service facilities, technical shops, and a placement office are provided by the school. Support for graduate training is available in the form of assistantships, traineeships, and fellowships. Prospective students may obtain application forms and information relevant to their interests from the head of the appropriate department or from the director of the school.

#### BIOMOLECULAR CHEMISTRY SPECIALIZATION

The development of molecular and structural biology now enables complex biological molecules to be studied using the methods and techniques of chemistry, to the extent that the interface between chemistry and biology has now become almost seamless. For this reason, an interdisciplinary graduate specialization is available for students enrolled in doctoral degree programs in the participating departments listed above. All students must become proficient in core areas of biomolecular chemistry, including biochemistry, molecular and structural biology, spectroscopy and physical chemistry of macromolecules, and molecular modeling. The specific courses and program emphasis will vary by department because of the broad nature of research in biomolecular chemistry.



The biomolecular chemistry program does not independently admit students or confer graduate degrees. Prospective students should address inquiries to the program office of any of the three participating departments. Students are admitted to the program after their acceptance by one of the participating departments and review by the biomolecular chemistry programming committee in the School of Chemical Sciences. Students admitted to the program must have completed minimal course work sufficient for admission to the department granting admission, preferably with some concentration at the chemistry-biology interface. All degree applicants must complete the requirements of the biomolecular chemistry program, as well as certain specified requirements of the department in which they are enrolled.

#### BIOCHEMISTRY

*Head of the Department:* John A. Gerlt

*Correspondence and Information:* Head, Department of Biochemistry, University of Illinois at Urbana-Champaign, 415 Roger Adams Laboratory, 600 South Mathews Avenue, Urbana, IL 61801; (217) 333-2013

#### GRADUATE FACULTY

*Professors:* J. E. Cronan, R. B. Gennis, J. A. Gerlt, M. Glaser, R. I. Gumport, L. P. Hager, A. F. Horwitz, A. M. Jonas, G. W. Ordal, D. J. Shapiro, S. G. Sligar, R. L. Switzer

*Associate Professors:* D. M. Kranz, M. A. Schuler, A. J. Wand

*Assistant Professor:* P. Orlean

#### GRADUATE DEGREE REQUIREMENTS

The Department of Biochemistry offers graduate work leading to the master of science and the doctor of philosophy degrees. For an application and departmental materials that provide greater detail on programs, offerings, admission, degree requirements, and financial aid, write to the graduate coordinator at the above address.

#### ADMISSION

Candidates for admission to the M.S. and Ph.D. programs must have bachelor's degrees from accredited institutions equivalent to those from the University of Illinois at Urbana-Champaign. Courses required for admission are organic and physical chemistry, biology, a year of physics, and mathematics through calculus. Students with a weakness in any of these areas may be required to make up deficiencies during their graduate study. A grade-point average of 4.0 or higher ( $A = 5.0$ ) for the last 60 hours of undergraduate work and for any graduate study is required for admission. Applicants are required to take the Graduate Record Examination (both the aptitude test and the advanced test in biochemistry, chemistry, or biology). Emphasis is placed on a student's interest and ability in research as demonstrated by previous work and letters of recommendation.

#### MASTER OF SCIENCE

Specific degree requirements for the course work M.S. and the thesis M.S. in Biochemistry include the successful completion of 4½ units of biochemistry courses. A course work master's degree requires a minimum of two full-time semesters and involves 8 total units of formal lecture and laboratory course work. At least 3 units must be in 400-level courses, and 2 of these 3 units must be in the major field. A thesis master's degree usually requires a minimum of three semesters; up to 3 of the 8 required units may be thesis research.

#### DOCTOR OF PHILOSOPHY

Specific degree requirements for the Ph.D. in Biochemistry include the successful completion of 4½ units of biochemistry courses. An additional 3½ units of advanced elective courses are also required for a minimum of 24 units including thesis credit. Students must also pass an oral research qualifying examination within the first eighteen months of residence and must successfully complete a series of written cumulative examinations. A thesis based on original research must be presented to a review committee at least two weeks before the final oral examination. The final examination is limited to a defense of the thesis research. Experience in teaching is considered a vital part of the graduate program and is required as part of the academic work of all Ph.D. candidates in this department. There is no foreign language requirement for the Ph.D. degree in biochemistry.

#### SPECIALIZATION IN BIOMOLECULAR CHEMISTRY

Jointly sponsored by the three departments in the School of Chemical Sciences—biochemistry, chemistry, and chemical engineering—this program involves a rigorous set of graduate level courses that cover topics in chemical and biochemical specialties, a seminar/tutorial,

and a multitude of opportunities for research in the biomolecular chemistry area with any faculty member in the School of Chemical Sciences. The program emphasizes a multidisciplinary approach to research, in which the structure and function of biomolecules are probed using a combination of organic and inorganic chemical synthesis, spectroscopic and analytical techniques, physical and computational modeling, biochemical and genetic engineering methods, and structure prediction and design. The goal of this program is to develop scientists who have both the in-depth knowledge of specialized methods that is required to be effective in research, together with the appreciation and understanding of the complementing methodologies that are essential for making significant advances on complex, challenging problems in the biomolecular chemistry area.

#### SPECIALIZATION IN GENETICS

The Department of Biochemistry offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### RESEARCH INTERESTS

The Department of Biochemistry is composed of faculty members whose research interests cover the major areas of current biochemical research and are united by a shared interest in biochemical regulatory mechanisms and structure-function relationships of biological macromolecules. The department offers major research programs in biophysics, protein chemistry, enzymology, nucleic acid structure, gene organization and expression, protein synthesis and degradation, molecular immunology, membranes, lipoproteins, cell surfaces, and hormone action.

#### FINANCIAL AID

Financial aid for graduate students in biochemistry is available in the form of fellowships, teaching and research assistantships, and tuition and partial fee waivers. In addition, interdepartmental training grants from the National Institutes of Health support multidisciplinary training programs. Qualified candidates are considered for financial support upon application. Graduate students making satisfactory progress toward their degree generally receive a stipend, as well as a full tuition waiver and a partial fee waiver.

#### CHEMICAL ENGINEERING

*Head of the Department:* R. C. Alkire

*Correspondence and Information:* Head, Department of Chemical Engineering, University of Illinois at Urbana-Champaign, 114 Roger Adams Laboratory, 600 South Mathews, Urbana, IL 61801; (217) 333-3640

#### GRADUATE FACULTY

*Professors:* R. C. Alkire, T. J. Hanratty, R. I. Masel, A. J. McHugh, W. R. Schowalter, C. F. Zukoski

*Associate Professors:* J. J. L. Higdon, E. G. Seebauer, M. A. Stadtherr

*Assistant Professors:* R. D. Braatz, K. D. Wittrup

#### GRADUATE DEGREE PROGRAMS

The Department of Chemical Engineering offers graduate work leading to the master of science and the doctor of philosophy degrees. Those interested should write to the address above for application materials and a departmental brochure, which gives greater detail on programs, offerings, admission, degree requirements, and financial aid.

#### ADMISSION

Candidates for advanced degrees in chemical engineering should have a background in chemistry and chemical engineering comparable to the training offered in the undergraduate chemical engineering curriculum at the University of Illinois at Urbana-Champaign. Students whose prior training is deficient in one or more basic areas of chemistry or chemical engineering will be admitted with the understanding that their deficiencies will be removed to the extent prescribed by their advisers. Graduate College admission requirements also apply.

#### MASTER OF SCIENCE

Requirements for the master of science include 8 units of graduate credit and a thesis. At least 5 of these units must be in courses other

than thesis research; 2 of the 3 required 400-level units must be in chemical engineering courses.

#### DOCTOR OF PHILOSOPHY

Requirements include 24 units of graduate credit, satisfactory performance on qualifying and certification examinations, and a thesis. The credit requirement includes a minimum of four graduate-level courses in chemical engineering and a coherent program of at least four courses in one or two other departments. The qualifying examination is a written test usually taken after one year of study. The certification examination is an individual oral examination taken after the student has satisfied the course requirements. It focuses on the student's proposed thesis research.

#### CHEMISTRY

*Head of the Department:* Paul W. Bohn

*Correspondence and Information:* Head, Department of Chemistry, University of Illinois at Urbana-Champaign, 106 Noyes Laboratory, 505 South Mathews Avenue, Urbana, IL 61801; (217) 333-0711

#### GRADUATE PROFESSOR

*Professors:* P. Beak, R. L. Belford, P. W. Bohn, T. L. Brown, R. M. Coates, S. E. Denmark, D. D. Dlott, L. R. Faulkner, H. Frauenfelder, R. B. Gennis, G. S. Girolami, M. S. Gutowsky, J. Jonas, J. A. Katzenellenbogen, W. G. Klempner, P. C. Lauterbur, J. M. Lisy, J. D. McDonald, R. G. Nuzzo, E. Oldfield, I. C. Paul, W. H. Pirkle, T. B. Rauchfuss, K. L. Rinehart, K. Schulten, K. S. Schweizer, D. H. Secrest, J. R. Shapley, S. G. Sligar, S. G. Smith, S. I. Stupp, K. S. Suslick, A. J. Wang, P. G. Wolynes, S. C. Zimmerman

*Associate Professors:* A. A. Gewirth, J. S. Moore, T. A. Nieman, A. Scheeline, P. A. Shapley, A. Wiekowski

*Assistant Professors:* M. Gruebele, Yi Lu, N. Makri, P. A. Petillo, J. V. Sweedler

#### GRADUATE DEGREE PROGRAMS

The degrees offered in chemistry are the master of arts or master of science in chemistry, master of science in the teaching of chemistry, and doctor of philosophy in chemistry. This catalog also provides information on a joint program leading to the doctor of philosophy in chemical physics (see page 189) and on programs in biophysics (see page 216).

#### ADMISSION

Students who have fulfilled the usual undergraduate course requirements, including at least 25 properly distributed semester hours in chemistry, may be considered for admission to the Graduate College in any of the programs offered by the Department of Chemistry. A student who has completed graduate work in chemistry at another institution may be considered for admission if averages of 4.0 (A = 5.0) have been earned in both undergraduate and graduate work, or if a 4.25 average has been earned in at least 8 units or a full year of graduate work at an accredited institution. Students applying for admission to the program in the teaching of chemistry are expected to have a valid secondary teaching certificate or to make arrangements for obtaining one before completing the requirements for the degree.

#### MASTER OF SCIENCE IN THE TEACHING OF CHEMISTRY

Candidates for the master of science in the teaching of chemistry must earn 4 units of credit in chemistry, 2 units in education, and 2 units of electives in either education or physical science. The 2 units in education consist of courses in educational policy studies and educational psychology (see page 196). The courses in chemistry and the electives must be selected with the approval of the adviser. No thesis is required. Questions concerning the Teaching of Chemistry program should be addressed to Professor D. H. Secrest, 316 Noyes Laboratory.

#### MASTER'S PROGRAMS IN CHEMISTRY

Eight units of credit are required for the master's degrees. The programs leading to degrees of master of arts or master of science in chemistry are designed to be completed in one year of full-time study by students entering without deficiencies. A research thesis is optional. If a thesis is elected, 5 units of formal courses are required. If a thesis is not elected, an additional 3 units of formal courses are required. The course program in that case must include 3 units of 400-level courses, 2 of which must be in chemistry.

#### DOCTOR OF PHILOSOPHY

Doctoral programs are offered in a wide range of specialties, including the traditional areas of analytical, inorganic, organic, and physical chemistry. Students usually require from three to five years to complete the requirements. A total of 24 units including thesis credit is required. The formal course requirements involve 2½ to 3½ units of

400-level courses in the major area of interest and 2 to 3 units in allied areas or fields. Besides completing formal course work, students are required to pass a series of written cumulative examinations, pass an oral preliminary examination on research preparation, and submit a thesis on original research, which is defended at a final oral examination. (Majors in organic chemistry must also demonstrate a reading knowledge of German.) Although teaching is not a general Graduate College requirement, this department requires Ph.D. candidates to do some teaching as part of their academic work, such experience being considered a vital part of the graduate program.

#### PROGRAM IN BIOPHYSICAL CHEMISTRY

The Department of Chemistry offers an area of specialization in biophysical chemistry. The program is flexible and provides the student with basic training in physical chemistry, physical biochemistry, and biology. Students electing this area should have a solid background in physics and mathematics. Details of the curriculum are decided individually. Interested students should direct inquiries and applications to the head of the Department of Chemistry.

#### FINANCIAL AID

Support for graduate students is available through fellowships and assistantships. All candidates are considered for these upon application. Graduate students making normal progress toward their degree generally receive a tuition waiver as well as a stipend.

#### CIVIL ENGINEERING

(Including Environmental Engineering in Civil Engineering and Environmental Science in Civil Engineering)

*Head of the Department:* N. M. Hawkins

*Correspondence and Information:* Head, Department of Civil Engineering, University of Illinois at Urbana-Champaign, 1114 Newmark Civil Engineering Laboratory, 205 North Mathews Avenue, Urbana, IL 61801; (217) 333-3811

#### GRADUATE FACULTY

*Professors:* D. P. Abrams, E. J. Barenberg, R. L. Berger, L. T. Boyer, S. H. Carpenter, E. J. Cording, M. I. Darter, B. J. Dempsey, R. H. Dodds, Jr., J. W. Eheart, R. S. Engelbrecht, D. A. Foutch, W. L. Gamble, J. Ghaboussi, G. R. Gurfinkel, W. J. Hall, M. M. Hawkins, A. J. Hendron, Jr., E. E. Herricks, F. V. Lawrence, Jr., J. C. Lieberman, L. A. Lopez, W. H. Maxwell, J. W. Melin, G. Mesri, J. P. Murtha, D. A. Pecknold, J. T. Pfeffer, A. R. Robinson, W. C. Schnobrich, V. L. Snoeyink, W. H. Tang, M. R. Thompson, A. J. Valocchi, W. H. Walker, Y. K. Wen, H. G. Wenzel, Jr., K. W. Wong, B. C. Yen, J. F. Young

*Associate Professors:* R. F. Benekohal, M. M. Clark, K. D. Hjelmstad, S. M. Larson, J. H. Long, I. D. Parsons, S. L. Paul, M. J. Rood, T. D. Stark, S. L. Wood

*Assistant Professors:* F. Coleman III, D. L. Freedman, M. H. Garcia, A. M. Ioannides, D. A. Lange, L. Y. Liu, L. Raskin, S. P. Schneider, D. T. Shaw, L. J. Struble

#### GRADUATE DEGREE PROGRAMS

The Department of Civil Engineering offers graduate work leading to the degrees of master of science and doctor of philosophy in civil engineering and in environmental engineering or environmental science in civil engineering. The department also offers a joint degree: the master of architecture and master of science in civil engineering (construction management option).

Emphasis is placed upon advanced study and participation in creative research. Graduate study and research can be pursued in the following general fields: air pollution; analysis and design of structures; application of artificial intelligence and expert systems techniques; aquatic ecology; behavior of structures; construction engineering and management; composite structures; computer-aided engineering systems; engineering risk, decision, and reliability analysis; environmental chemistry; environmental engineering and environmental systems analysis; fracture mechanics; geodetic engineering; highway engineering; hydrosystems engineering; hydrology, water resources, hydromechanics, and hydraulic structures; materials engineering; models research; nondestructive diagnostics; nuclear structural shielding; ocean engineering; ocean structures; photogrammetry and computer vision metrology; properties of structural materials: concrete, steel, timber, and others; rock mechanics; soil mechanics and foundations; solid waste management; stochastic structural dynamics and random vibrations; stream analysis; structural dynamics: design for earthquake, shock, blast excitation, and ocean waves; structural

mechanics; system analysis and design; traffic engineering; transportation; planning, systems design, and operations; urban planning and management; wastewater treatment; water quality and treatment. Interdisciplinary programs with other departments or colleges can also be arranged.

#### ADMISSION

Students are admitted with full standing if they hold undergraduate degrees substantially equivalent to those of the University of Illinois at Urbana-Champaign, provided the applicant's preparation is appropriate to advanced study in his or her chosen major field. For additional information, see the departmental pamphlet, *Graduate Study and Research in Civil Engineering and in Environmental Engineering or Environmental Science in Civil Engineering*. In general, a 4.0 grade-point average ( $A = 5.0$ ) for the last 60 hours of the undergraduate program and for any previous graduate work is a minimum requirement for admission to the M.S. program. Requirements for admission to the Ph.D. program are variable, but are usually substantially higher. The Graduate Record Examination is not required but is highly recommended.

#### MASTER OF SCIENCE

A master's program may be completed in one full-time academic year of study. Candidates for the master's degree must complete at least 9 units without a thesis or 8 units with a thesis. In the latter case, credit is given for thesis work. Three of the units must be in courses numbered in the 400 series, and 2 of these 3 must be taken for grades in the major field. A total of at least 4 units must be in the major field. There are no specific course requirements; individual programs are developed by the students in consultation with their academic adviser. At least half of the minimum units required for the degree must be in courses meeting on the Urbana-Champaign campus or in courses meeting in other locations approved by the Graduate College for residence credit for the degree sought. Although under certain conditions students holding a half-time assistantship for an academic year and a summer can obtain a master's degree in this period of time, usually they require an additional semester. There are no foreign language requirements in the M.S. program. The joint master of science with architecture degree requires a minimum of 19½ units with a thesis and 20½ units without a thesis and can be completed in five semesters of full-time studies.

#### DOCTOR OF PHILOSOPHY

The degree of doctor of philosophy, primarily a research degree, requires from three to five years of graduate study beyond the bachelor's degree. A minimum of 24 units beyond the bachelor's degree or 16 units beyond the master's degree is required. In accordance with Graduate College regulations, 16 units must be completed in residence. The major area of specialization encompasses courses and research that are closely related, but the courses need not be offered by a single major department. There is no departmentwide foreign language requirement. However, the faculties of some areas of specialization may require foreign language proficiency if essential to the conduct of research in that area. Candidates must demonstrate a capacity for independent research by preparing an original thesis on a topic within the major field of study, must meet the qualifying requirements or examination in the area of specialization, and must pass both preliminary and final examinations.

#### RESEARCH CENTERS

The Center for Cement Composite Materials, which is administered by the Department of Civil Engineering, is devoted to developing new cement-based, high-strength materials. Other continuing efforts include the Fracture Control Program and the Materials Processing Consortium.

#### FINANCIAL AID

Financial aid is available in the form of fellowships, research and teaching assistantships, and tuition and partial fee waivers.

#### CLASSICS

(Including Classical Greek, Classical Philosophy, and Latin)

Chair of the Department: James A. Dugate

Correspondence and Information: Department of the Classics, University of Illinois at Urbana-Champaign, 4072 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-1008

#### GRADUATE FACULTY

Professors: G. M. Browne, W. M. Calder III, H. H. Hock, H. Jacobson,

J. K. Newman, D. Sansone, L. Zgusta

Associate Professors: J. A. Dugate, E. R. Hostetter

Assistant Professors: J. Fogel, S. D. Olson, M. G. Parca

Emeritus Professor: J. J. Bateman, M. Marcovich

#### GRADUATE DEGREE PROGRAMS

The Department of the Classics offers graduate work leading to the master of arts in classics, Greek, Latin, teaching of Latin, and the doctor of philosophy in classical philosophy. Although the graduate program is designed to provide a thorough education in classical studies in the widest sense, students may concentrate at different stages upon Greek and Latin language and literature (including papyrology, Byzantine and Renaissance authors); classical archaeology; or, in conjunction with the appropriate department, comparative literature, ancient history, ancient philosophy, and classical linguistics. A statement of "Regulations for Advanced Degrees in the Classics" and special programs for prospective secondary school teachers may be obtained from the departmental office.

#### ADMISSION

In addition to meeting the admission requirements of the Graduate College, applicants for admission to graduate study in the classics curriculum must ordinarily present at least 20 hours in either Greek or Latin and 15 hours in the other language; candidates for admission to the Greek or Latin curriculum must ordinarily present at least 20 hours in that language. Previous work in ancient history, ancient art and archaeology, philosophy, literary criticism, or linguistics is desirable.

#### MASTER OF ARTS

The master of arts may be taken in classics, Greek or Latin. Candidates for this degree must complete 8 units of course work. For the A.M. in Classics: 6 units of Greek and Latin, with at least 2 units in each language and at least 3 units at the 400 level (excluding 400-401); 2 units of electives; and sight-translation examinations in both languages. For the A.M. in Greek (Latin): 5 units in Greek (Latin) with at least 3 units at the 400 level; 3 units of electives; and sight-translation examination in Greek (Latin). With the consent of the student's adviser, up to 2 units of thesis research may be counted toward elective credit for the A.M. in classics, Greek, or Latin. For the A.M. in the teaching of Latin: 4 units of Latin in regular courses, including 311, with at least 3 units at the 400 level; 2 units of appropriate education courses; and 2 units of appropriate electives.

#### DOCTOR OF PHILOSOPHY

The doctor of philosophy is offered only in classical philology, which requires advanced work in both Greek and Latin. Candidates for the Ph.D. program are eligible for acceptance upon completion of the master's degree in classics or its equivalent. Once admitted, they must complete at least 16 additional units of course work. These include 6 units in Greek and Latin, with at least 2 units in each language and at least 5 at the 400 level, 2 units of appropriate electives, and up to 8 units of thesis research. The department requires a reading knowledge of two ancillary languages, German and French or Italian. Knowledge of one of these must be demonstrated at the time of admission to Stage II and the other before the start of the second year at Stage II. Admission to the thesis level requires passing examinations in Greek and Latin sight-translation, the history of Greek and Latin literature, and a special author, as well as the preliminary oral examination.

#### RESEARCH INTERESTS

Two periodicals are edited in the department: *Illinois Classical Studies* and *Journal of Coptic Studies*.

#### RESOURCES

The separate Classics Library has about 45,000 titles. The University of Illinois Library's Rare Book Room houses the Turyn Archive of Greek manuscript photographs and the American Center of the International Photographic Archive of Papyri. The Krannert Art Museum and the World Heritage Museum have outstanding collections of ancient vases and other artifacts. The department has an IBYCUS Scholarly Computer with a CD-ROM reader and disks containing Greek and Latin texts from the Thesaurus Linguae Graecae, CCAT Biblical Materials, and the Duke Data Bank of Documentary Papyri.

#### FINANCIAL AID

University fellowships and departmental fellowships are available for the academic year. Teaching assistantships are available for both the academic year and Summer Session Term II.



## COGNITIVE SCIENCE/ARTIFICIAL INTELLIGENCE

Cognitive Science is the study of intelligent systems—both natural and artificial—combining knowledge primarily from computer science, linguistics, and psychology. The field also has strong links to the neurosciences, philosophy, and anthropology, as well as to the physical and engineering sciences dealing with complex dynamical systems.

Although there is no single academic department or formal degree labeled Cognitive Science, graduate students can pursue studies in cognitive science through existing departmental programs and through participation in research projects at the University's Beckman Institute for Advanced Science and Technology. The most common departmental affiliations of students interested in cognitive science are computer science, linguistics, psychology, and educational psychology. Normally, in their first year of graduate study, interested students will take the proseminar in cognitive science in addition to working on specific departmental requirements. In their second year and beyond, students will begin to specialize in an area within cognitive science: learning and conceptual organization, cognitive neuroscience, computational linguistics, and psycholinguistics. Each of these subareas is represented by a number of faculty and is associated with many available graduate courses.

For further information contact Cognitive Science/Artificial Intelligence Steering Committee, Room 2127 Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, 405 North Mathews Avenue, Urbana, IL 61801; (217) 244-1983.

## COMMUNICATIONS

*Dean of the College of Communications:* Kim B. Rotzoll

*Chair of the Graduate Committee:* Clifford G. Christians

*Correspondence and Information:* Chair, Graduate Committee in Communications, University of Illinois at Urbana-Champaign, 222B Armory, 505 East Armory Avenue, Champaign, IL 61820; (217) 333-1549

### GRADUATE FACULTY

*Professors:* W. F. Brewer, C. Christians, J. G. Delia, N. Denzin, M. E. Fishbein, T. Guback, H. Maclay, R. Merritt, K. B. Rotzoll

*Associate Professors:* W. E. Berry, J. Nerone, A. Press, P. Treichler, B. Williams

*Assistant Professors:* A. Barrera, S. Braman, G. Gladney, C. McCarthy, A. Valdivia

*Emeritus Professors:* J. W. Carey, J. W. Jensen, T. Peterson

### GRADUATE DEGREE PROGRAM

The program for the doctor of philosophy in communications is administered by the Institute of Communications Research in the College of Communications. It provides a core program in communications and permits advanced specialization in several areas: process, content, and effects of the mass media, including their political, social, and economic aspects; history; popular culture; gender studies; persuasion and attitude change; cultural studies; advertising; international communication; information technology; psycholinguistics; and ethnicity. The program applies the methods and disciplines of the social sciences supported by the humanities, fine and applied arts, and natural sciences to the basic problems of human communications. It is intended for students who plan careers in teaching communications theory and such subjects as journalism, radio-television, and media studies; scholarly research on the development, control, and ethics of the mass media; research on public opinion measurement, advertising, communication effects, psycholinguistics, and semantics; and executive jobs in government and industry requiring breadth, perspective, and a scholarly background.

### DOCTOR OF PHILOSOPHY

The Ph.D. program requires a minimum of 24 units beyond the bachelor's degree. Students working toward a Ph.D. degree usually require from three to five years to complete their work. Full-time students entering the program directly after receiving a bachelor's degree should expect to take two full years of course work and a minimum of one additional year for the preparation of a thesis. Full-time students entering with a master's degree should expect to transfer only 2 to 4 units of course work. Doctoral students must pass preliminary examinations covering course work and declared specialties and a final examination covering the thesis. A master's degree in communications is not offered. Students desiring to complete a master's

degree should consider enrolling in the Departments of Journalism or Advertising or in one of the departments in the social sciences.

## COMMUNITY HEALTH

*Head of the Department:* Lee A. Crandall

*Correspondence and Information:* Coordinator of Graduate Studies, Department of Community Health, University of Illinois at Urbana-Champaign, 1221 Huff Hall, 1206 South Fourth Street, Champaign, IL 61820; (217) 333-6877

### GRADUATE FACULTY

*Professors:* R. W. Armstrong, M. K. Buetow, L. A. Crandall, P. B. Imrey, R. G. Mortimer, L. B. O'Reilly, T. W. O'Rourke, R. F. Rich, R. L. Sprague

*Associate Professors:* R. J. Buchanan, U. D. Kitron, J. S. Reis, L. Robinson, S. Trupin, R. M. Weigel, C. R. Young

*Assistant Professors:* R. E. Austin, B. J. Chakravorty, D. L. Gottheil, L. L. Hungerford, D. M. Main, K. A. Rosenblatt

### GRADUATE DEGREE PROGRAMS

The Department of Community Health offers programs of study leading to the master of science, master of science in public health, and doctor of philosophy degrees. At the master's degree level, the program offers options in epidemiology, health behavior, health policy and administration, and community health education. The M.S.P.H. degree in community health education has been accredited by the Council on Education for Public Health. The Ph.D. program is designed to prepare graduates for positions of leadership in teaching, research, and service in universities, industries, and private and government agencies in the United States and in other countries. Opportunities are available for graduate students who desire to concentrate in other public health areas through an intercampus program with the School of Public Health at the University of Illinois at Chicago.

### ADMISSION

The Graduate College admission requirements apply for all applicants. Candidates wishing admission to the M.S. program will have their grade-point averages computed for their last 60 semester hours of undergraduate courses (excluding student teaching, fieldwork, or activity courses). In addition, satisfactory scores on the verbal and quantitative sections of the Graduate Record Examination are required.

The admission requirements for the Ph.D. program include the following: an acceptable grade-point average in the last 60 hours of undergraduate course work (not including student teaching, fieldwork, or activity courses), an average of 4.5 for graduate work, an acceptable score on the Miller Analogies Test, and satisfactory scores on the verbal, quantitative, and analytical sections of the Graduate Record Examination. Candidates are required to have a personal interview with the coordinator of graduate studies or other representatives of the department. Preference is given to students who have had at least two years of professional experience. Applicants whose native language is not English must score at least 600 on the TOEFL examination.

### MASTER OF SCIENCE

The specializations in epidemiology and health behavior require a minimum of 8 units of graduate credit. Three units must be at the 400 level, with 2 of these units in community health courses. The program includes completion of 3 units of core courses, which are intended to provide overall knowledge of the public health field and the tools necessary for successful functioning as a health specialist. A thesis (1 to 2 units) is required. Students entering the program will be expected to have completed undergraduate course work in data collection and processing, including issues of measurement and questionnaire design, computerization, descriptive health measures, and statistical analysis through regression. Courses must have been completed with grades of B or better. Deficiencies in these areas will require additional course work, as necessary, for successful completion of the master of science degree.

The specialization in health policy and administration generally takes two years, depending upon prior education and experience. A minimum of 12 units of graduate credit is required; 6 units must be at the 400 level, with 3 of these units in community health courses. The program includes 8 units of required courses, which are intended to provide an overall knowledge of the public health field and the tools necessary for successful functioning as a health policy and adminis-

tration specialist, and a thesis or research project (1 unit). Students entering the program are expected to have completed undergraduate course work in economics, social sciences, and data collection and processing, which includes issues of measurement, questionnaire design, computerization, descriptive health measures, and statistical analysis through regression. Courses must have been completed with grades of B or better. Deficiencies in these areas will require additional course work, as necessary, for successful completion of the degree.

#### MASTER OF SCIENCE IN PUBLIC HEALTH

The program for the M.S.P.H. degree, which is in community health education, is accredited by the Council on Education for Public Health. The program generally takes two years, depending upon prior education and experience. A minimum of 12 units of graduate credit is required. Three units must be at the 400 level, with 2 of these units in community health courses. The program includes 6½ units of required courses that are intended to provide an overall knowledge of the public health field and the tools necessary for successful functioning as a community health education specialist; 1 unit of fieldwork experience in the summer; and a thesis (1 to 2 units). Students entering the program are expected to have completed undergraduate course work in data collection and processing, including issues of measurement and questionnaire design, computerization, descriptive health measures, and statistical analysis through regression. Courses must have been completed with grades of B or better. Deficiencies in these areas will require additional course work, as necessary, for successful completion of the degree.

#### DOCTOR OF PHILOSOPHY

A master's degree with a thesis or equivalent is required for applicants to the Ph.D. program. Graduate course experience in public health and statistics with grades of B or better is expected prior to admission. Before admission to the Ph.D. program, students may be required to take up to 3 units of additional course work to remedy deficiencies. Candidates for the degree must complete a minimum of 16 units of credit beyond the master's degree, including the following: two community health 400-level courses in the area of specialization; one community health 490 research seminar; one 400-level course in advanced quantitative methods; one minor for a minimum of 4 units, or two minors for a minimum of 2 units each (in both cases outside the major field); and completion of an acceptable dissertation (8 units). In addition, candidates must demonstrate the ability to speak and read two foreign languages, complete 4 units of research skill courses, or demonstrate the ability to speak and read one foreign language and complete 2 units of research skill courses. The candidate is required to pass written preliminary examinations covering community health, application of social science, epidemiology, research and quantitative methods, the major area of specialization, and the minor field; to pass an oral preliminary examination on the area of specialization and dissertation proposal; and to pass an oral defense of dissertation research.

#### FACULTY RESEARCH INTERESTS

Faculty research interests cover a wide range including, but not limited to, health education, community health development, health behavior, health policy, health planning and management, epidemiology, biostatistical and epidemiologic research methodology, and evaluation research.

#### MEDICAL SCHOLARS PROGRAM

This program allows the student interested in medicine and community health to earn both the M.D. and Ph.D. (community health) degrees while gaining multidisciplinary research experience. Individually tailored programs can be developed within the requirements of both programs. Degree work will be arranged to accommodate the schedules of both programs. However, the course of study in community health will be equivalent to that of all other doctoral candidates. Write to the program director of the Medical Scholars Program, College of Medicine at Urbana-Champaign, 190 Medical Sciences Building, 506 South Mathews Avenue, Urbana, IL 61801, for further information regarding the program.

#### FINANCIAL AID

Financial aid is available on a competitive basis to qualified students in the form of teaching and research assistantships and tuition and service fee waivers.

## COMPARATIVE LITERATURE

*Acting Director of the Program:* Janet Smarr

*Correspondence and Information:* Director of Graduate Studies, Program in Comparative Literature, University of Illinois at Urbana-Champaign, 2070 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-4987

#### GRADUATE FACULTY

*Professors:* N. Blake, D. Figueira, H. Knust, M. Palencia-Roth, J. Smarr, G. Tikku

*Assistant Professor:* D. Pan

*Emeritus Professors:* A. O. Aldridge, F. Jost

#### GRADUATE DEGREE PROGRAMS

The program in comparative literature offers graduate work leading to the degrees of master of arts and doctor of philosophy and is designed to provide a systematic study of subjects and problems common to several literatures. Its purpose is to enable students who have varied linguistic competence and preparation to explore the theory of literature and criticism; the interrelations of several literatures; the main currents, periods, and movements in literary history; the development of literary themes and types; and the relations between literature and the other arts.

#### ADMISSION

In addition to meeting the Graduate College admission requirements, a student entering the program should have an undergraduate major in English, the classics, or a foreign language. Majors in history and philosophy may be accepted with the special consent of the director of the program. For applicants to the Ph.D. curriculum, the A.M. will function as the qualifying test. Students entering with a recognized A.M. degree from another university or from another department of this University will take the comparative literature component and a literary component of this program's regular master of arts examination at the end of the first year as a qualifying test.

#### MASTER OF ARTS

The candidate must demonstrate a competency in at least two foreign languages as well as in English. Latin is necessary for students planning to specialize in the Middle Ages, the Renaissance, or Neoclassicism. Competence in the languages offered is measured either by the successful completion of one advanced course in the literature of each of the languages chosen or by passing an examination administered by the program in comparative literature with the assistance of an expert in the language concerned. This choice is intended to provide for languages that may not be taught in regular departments.

The candidate must complete 8 units of credit, including two courses in the theory of literature (Comparative Literature 401 and 402) and two seminars in comparative literature selected from Comparative Literature 451, 461, 471, and 481; the other 4 units should be taken in two or three national literatures in a distribution approved by the adviser; at least 5 of 8 units must be in courses at the 400 level. The candidate must pass a written examination based on a reading list, which is designed to test knowledge of literary history as well as ability to interpret a literary or critical text.

#### DOCTOR OF PHILOSOPHY

A candidate for the doctor of philosophy degree must fulfill the general requirements of the Graduate College in addition to those specified above for the master's degree. Competence must be demonstrated in at least three foreign languages as well as in English. These three languages will coincide with those vital to the student's thesis and area of specialization. At least 5 units will consist of comparative literature seminars. Three additional units of work at the 400 level should be taken in courses regularly offered by the literature departments; among these, courses crosslisted with the program in comparative literature are especially recommended. The candidate is responsible for a knowledge of the history of the literature in one modern language. The student also selects a period of major interest and is responsible for a knowledge of two other literatures in this period, which are considered as minors. The periods may be the Middle Ages, Renaissance, Neoclassicism, and the Enlightenment, or the modern (nineteenth and twentieth centuries). Some chronological variations in coordinating the minors will be allowed for students studying non-Western literatures. A preliminary examination, a four-part written examination based on the individual program, and an oral examination with emphasis on the thesis project must be passed. The candidate must present an acceptable thesis embracing several national literatures and pass a final oral examination on the thesis.

**FINANCIAL AID**

A limited number of University fellowships, tuition and service fee waivers, and teaching assistantships, in cooperation with other departments, is available.

**COMPUTATIONAL SCIENCE AND ENGINEERING**

*Director of the Program:* P. Banerjee

*Correspondence and Information:* CSE Program Office, 469 Computer and Systems Research Laboratory, MC-228, 1308 West Main Street, Urbana, IL 61801; (217) 333-6564

*Steering Committee:* The CSE Program is overseen by a committee of faculty members from the participating departments: J. B. Adams (MSE), P. Banerjee (ECE), R. A. Beddini (AAE), D. M. Ceperley (Physics), K. A. Gallivan (ECE), R. B. Haber (TAM), M. T. Heath (CS), S. P. Vanka (MIE)

*Graduate Faculty:* The graduate faculty of this program consists of graduate faculty members in the participating departments.

**PARTICIPATING DEPARTMENTS**

Aeronautical and Astronautical Engineering, Computer Science, Electrical and Computer Engineering, Materials Science and Engineering, Mechanical and Industrial Engineering, Physics, and Theoretical and Applied Mechanics.

**GRADUATE DEGREE PROGRAMS**

The term Computational Science and Engineering (CSE) refers to those activities in science and engineering that exploit computing as their main tool. Advances in computational techniques have enabled the solution of many science and engineering problems that were once regarded as intractable. In addition, advances in computer architecture have upgraded the role of computation from a supporting tool for theoretical and experimental investigations to a main tool for advancing these disciplines. The purpose of the graduate program in CSE in the College of Engineering at the University of Illinois is to foster interdisciplinary research among researchers in various fields of science and engineering that use computing as the main means of research. All CSE students must be proficient in several areas of computational science and engineering, namely, numerical computing, parallel programming, and computational aspects of some application areas. The CSE program offers a set of coordinated core and advanced courses to enable the students to achieve this proficiency. In addition, the thesis of a CSE student must be in a CSE-related topic. There are different academic programs in different departments. The CSE academic program (including course, examination, and thesis requirements) in each department are determined by the departments. Details of the CSE program requirements can be obtained from the graduate programs offices in the respective departments or from the CSE program office at 469 Computer and Systems Research Laboratory.

**ADMISSION**

The CSE program does not independently admit students or confer graduate degrees. Students in the CSE program are officially enrolled in one of the participating departments and receive a graduate degree (M.S. or Ph.D.) in the respective departments with the CSE option. All degree applicants must complete the degree requirements of the department in which they are enrolled in addition to those of the CSE program.

**COMPUTER SCIENCE**

*Head of the Department:* D.H. Lawrie

*Correspondence and Information:* Academic Office, 2413 Digital Computer Laboratory, Department of Computer Science, University of Illinois at Urbana-Champaign, 1304 West Springfield Avenue, Urbana, IL 61801; (217) 333-3527. Electronic mail: academic@cs.uiuc.edu.

**GRADUATE FACULTY**

*Professors:* G.G. Belford, R.H. Campbell, N. Dershowitz, H. Edelsbrunner, M. Faiman, M. Heath, T. Kerkhoven, W.J. Kubitz, D.H. Lawrie, C.L. Liu, J.W.S. Liu, S. Muroga, S.R. Ray, D. Reed, E.M. Reingold, P.E. Saylor, R.D. Skeel

*Associate Professors:* G. Agha, G. Dejong, H.G. Friedman, Jr., M.T. Harandi, L.V. Kale, S.N. Kamin, S. Kaplan, M.D. Mickunas, D. Padua-Haiek, L. Pitt, J. Ponce, U. Reddy, L.A. Rendell, P. M. Vaidya, M. S. Winslett  
*Assistant Professors:* A. Chien, R. Gupta, C. Hayes, S. Mehrotra, F. Saied, J. Torrellas

**GRADUATE DEGREE PROGRAMS**

The Department of Computer Science offers graduate programs leading to the degrees of Ph.D., M.S., M.C.S. (a nonthesis option), and M.S.T.C.S. (for teachers). The M.S. requires 8 units of course work, including a 1-unit thesis (1 unit equals 4 semester hours). The Ph.D. requires 24 units, including 12 units of course work, which usually includes an M.S., and a thesis describing original research. The M.C.S., a terminal degree, requires 9 units of course work. The M.S.T.C.S. requires 8 units of course work and approved teaching experience. There are also programs that enable students to combine an M.C.S. with an M.Arch. or an M.B.A. For an application and departmental materials that provide greater detail on programs, offerings, admission, degree requirements, and financial aid, contact the department at the above addresses or telephone number.

**ADMISSION**

Those seeking admission to any of the department's graduate programs should write, telephone, or send e-mail for an application package. Applicants should state whether they are U.S. citizens, permanent residents, or international students. All materials, credentials, and test scores must be received by the following deadlines: there is no separate deadline for summer or fall terms—January 15; for spring terms—September 1. Applicants must hold (or be about to receive, for admission only applicants) a bachelor's degree equivalent to that granted by the University of Illinois at Urbana-Champaign. Their grade-point average (GPA) for the last 60 semester hours of undergraduate study must correspond to a B or higher. If they also hold a master's degree, the GPA for that must also be at least a B. In addition to a completed application form, applicants must send the designated fee payable to the University, official copies of transcripts of all completed university course work, and three letters of reference. All applicants must also submit their scores on the Graduate Record Examination (GRE) general aptitude tests: verbal, quantitative, and analytical portions. A score for the Computer Science Subject Test is not required, but if included will be considered in evaluating the application. International applicants whose native language is not English and who have attended a university in an English-speaking country for less than two years must submit a score of at least 570 for the Test of English as a Foreign Language (TOEFL). In addition, all applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships must submit a score of 230 or more for the Test of Spoken English (TSE). This is a law of the state of Illinois which the department has no authority to waive. The recommended background for entering students is a bachelor's or master's degree in computer science or computer engineering. Students with degrees from other disciplines who have had mathematics through calculus and linear algebra are also admitted, but may not be qualified initially to be awarded assistantships in computer science. The GPAs of applicants admitted for the past few years have averaged 4.6 (A = 5.0); the total GRE (general) scores averaged 2,000 (2,400 maximum).

**DANCE**

*Head of the Department:* Patricia K. Knowles

*Correspondence and Information:* Graduate Program, Department of Dance, University of Illinois at Urbana-Champaign, 4-501 Krannert Center for the Performing Arts, 500 South Goodwin Avenue, Urbana, IL 61801; (217) 333-1010

**GRADUATE FACULTY**

*Professor:* P. K. Knowles  
*Associate Professor:* R. Wadleigh  
*Assistant Professors:* S. Gold, R. Nettl-Fioll, J. O. Pempner III, W. Wagner (The resident faculty is augmented by visiting professional artists who teach advanced studio courses.)

**ADMISSION**

Prerequisites for admission are (1) an undergraduate degree in dance comparable to that granted by the University of Illinois at Urbana-Champaign or equivalent experience (students who are deficient in undergraduate course work may be admitted, but will be expected to



make up any deficiencies) and (2) demonstrated advanced technical skill and choreographic ability (candidates must pass a qualifying audition to confirm advanced technical proficiency and to demonstrate facility in choreography).

#### GRADUATE DEGREE PROGRAM

The M.F.A. Program in Dance is a practice-oriented terminal degree program for students in performance and choreography. Degree requirements are 15 units and a minimum two-year (4-semester) residence. Course work taken to complete undergraduate deficiencies will increase the residence requirements to 5 or 6 semesters. A culminating creative project (Dance 498, 2 units) must be approved and accepted by the graduate faculty. In the areas of technique, choreography, performance, production, independent research, theory, seminar, and the culminating project, 12 units are required. The remaining 3 units of electives may be taken in dance or in related areas of interest. The ability of the candidates to pursue graduate study will be assessed at the midterm of the second semester in residence, at which time a decision will be made regarding continuation in the program. For returning professionals, some degree of curricular flexibility is permitted depending on previous experience or current interests and goals.

#### FINANCIAL AID

Four forms of financial aid are offered by the Department of Dance: resident and nonresident tuition scholarships; graduate teaching assistantships that include tuition waivers; fellowships in the amount of \$10,000 for students from underrepresented populations (Black, Hispanic, Native American); and the Creative and Performing Arts Fellowship that includes a \$4,000 stipend and a tuition waiver. This Graduate College fellowship is awarded to a graduate student who demonstrates outstanding choreographic and/or performance talent.

#### ECONOMICS

*Interim Head of the Department:* Jane Leuthold

*Associate Head and Director of Graduate Studies:* Salim Rashid

*Correspondence and Information:* Department of Economics, University of Illinois at Urbana-Champaign, 330 Commerce West Building, 1206 South Sixth Street, Champaign, IL 61820; (217) 333-0120; FAX: (217) 244-6678

#### GRADUATE FACULTY

*Professors:* L. Alston, R. Arnold, W. Baer, A. Bera, F. Blau, J. Brueckner, F. Gahvari, J. Giertz, R. Gillespie, F. Gotthel, E. Grinols, W. Hendricks, C. Kahn, L. Kahn, R. Koenker, J. Leuthold, W. McMahon, L. Neal, P. Newbold, D. Orr, S. Rashid, R. Resek, P. Schran, W. Shafer, F. Shupp, P. Spiller, C. Sprengle, K. Taira, T. Ulen, N. Yannelis

*Associate Professors:* L. Arvan, A. Bera, L. DeBrock, H. Esfahani, R. Husby, S. Steinkamp, B. Taub, A. Villamil, S. Williams, H. Williamson

*Assistant Professors:* J. Conley, P. Graziano, S. Greenstein, M. Huggett, S. Krasa, C. Kuan, W. Maloney

#### GRADUATE DEGREE PROGRAMS

The Department of Economics offers graduate work leading to the master's degree in policy economics and doctor of philosophy degrees. The candidate for an advanced degree may specialize in the following fields: microeconomic theory, environment and natural resources, history of economic thought, public finance, monetary theory, international economics, economic history, labor economics, growth and development, comparative economic systems, urban and regional economics, mathematical economics, econometrics, industrial organization, law and economics, and human resource economics.

#### MASTER OF SCIENCE IN POLICY ECONOMICS

This is a specially designed, intensive, one to two year program of study. It is intended for promising young administrators in government and private institutions (in both Third World countries and advanced industrial countries) who need additional training in the areas of economic analysis and quantitative techniques. Individuals with other backgrounds and interests may substitute appropriate advanced-level courses for the core courses listed below.

The program of study in policy economics consists of 10 units of graduate course work. A core of four courses (macroeconomics, microeconomics, statistics, and applied econometrics) is required of all students in the program. Beyond that core, students select one field of concentration from those listed above. An additional four graduate

credit courses are to be completed. Two of these must be taken in economics, and an additional two courses may be in economics or in other areas. Students normally enter the program in the fall term.

This required course work is further enriched through (1) a short course in computers, which is later used in the statistics and econometrics courses; (2) opportunity to go on field trips to observe financial institutions, commodity exchanges, and the like; (3) scheduled lectures by outstanding, internationally known economists; (4) discussion groups and tutoring for participants who are having difficulty; (5) program staff to help with visas, housing, and other problems.

Tuition and fees for this program are substantially higher than those in other University programs. No financial aid is available for students in this program.

#### DOCTOR OF PHILOSOPHY

The Ph.D. program requires the completion of 24 units of study beyond the bachelor's degree. Specific requirements include a set of core courses: 1 unit in mathematics for economists, 3 units of microtheory, 2 units of macrotheory, 3 units of statistics and econometrics, and 8 doctoral thesis units. Candidates must maintain a grade-point average of B in the micro, macro, and statistics core courses. Candidates must also successfully complete two fields through course work and/or a written examination. A research paper is also required. In addition, candidates are required to give an oral defense of the thesis proposal and pass an oral final examination covering the research. A student with an appropriate background who devotes full time to graduate work can complete the Ph.D. degree in four years beyond the bachelor's degree. An additional year or more is sometimes necessary, especially for those holding part-time assistantships.

In addition to the standard undergraduate preparation in economics, students are expected to have had at least two semesters of calculus and one of linear algebra to be admitted to the Ph.D. program. The results of the Graduate Record Examination should accompany applications for admission. The Graduate College admission requirements apply. In addition, international students must submit TOEFL results; if they wish to apply for teaching assistantships, the Test of Spoken English (TSE) is also required.

#### MASTER'S PROGRAM IN ECONOMICS

A master of arts degree and a master of science degree are available for students in the Ph.D. program to enable them to earn a master's as they work toward the Ph.D. degree. Students interested in a terminal master's degree are not admitted to the Ph.D. program.

#### FINANCIAL AID

Over the past seven years, the Department of Economics has been able to offer fellowships or assistantships to most domestic students who meet the standards for entrance or continuation in the Ph.D. program. A similar commitment to domestic students is anticipated for the coming year. Teaching assistantships are generally not given to international students during their first year unless they have scored at least 250 on the TSE, and have a particularly strong academic background.

#### EDUCATION

**(Including Curriculum and Instruction; Educational Organization and Leadership; Educational Policy Studies; Educational Psychology; Special Education; and Vocational and Technical Education)**

*Dean of the College of Education:* P. David Pearson

*Correspondence and Information:* Fred S. Coombs, Associate Dean for Graduate Programs, College of Education, University of Illinois at Urbana-Champaign, 120 Education Building, 1310 South Sixth Street, Champaign, IL 61820; (217) 333-0964

#### GRADUATE FACULTY

*Professors:* J. D. Anderson, R. C. Anderson, T. H. Anderson, B. Armbruster, S. R. Asher, A. J. Baroody, B. C. Bruce, Jr., N. C. Burbules, F. S. Coombs, D. L. Essex-Sorlie, H. S. Farmer, J. A. Farmer, W. Feinberg, S. A. Fowler, J. Garcia, M. B. Griggs, J. W. Halle, L. W. Harmon, L. W. Heal, J. F. Hill, S. O. Ikenberry, C. J. Karier, L. G. Katz, H. C. Kazanas, G. W. Ladd, J. A. Leach, S. R. Levy, J. W. Loeb, J. M. Mason, J. A. McCollum, G. W. McConkie, T. L. McGreal, P. D. Pearson, A. J. Peshkin, A. E. Rodgers, L. J. Rubin, F. R. Rusch, R. A. Smith, R. J. Spiro, B. Spodek, R. E. Stake, P. W. Thurston, T. J. Tracey, K. J. Travers, W. T. Trent, P. C. Violas, J. L. Walker, J. G. Ward, T. Wentling, C. K. West, I. D. Westbury, J. S. Zaccaria

*Associate Professors:* L. Bresler, J. Chadsey-Rusch, R. T. Clift, E. J. Copeland, R. Cordova-Ventling, G. A. Cziko, L. DeStefano, L. F. Fitzgerald, J. S. Gaffney, D. L. Harnisch, V. J. Harris, S. D. Johnson, K. R. Koeneke, J. A. Levin, M. V. Levine, A. L. Madsen, C. McCarthy, E. F. McClure, R. E. Nelson, J. C. Ory, R. C. Page, L. Perkins, N. A. Prestine, A. M. Renzaglia, J. B. Rounds, M. M. Shorish, S. E. Tozer, D. J. Walsh, J. L. Wardrop, M. L. Waugh, K. G. Witz

*Assistant Professors:* T. A. Ackerman, K. L. Alston, C. Anderson, B. Barnett, T. Bennett, D. D. Bragg, D. E. Brown, J. L. Ellickson, G. E. Garcia, P. L. Glidden, R. Jimenez, C. E. Kozoll, B. Merchant, L. A. Meyer, L. E. Monda-Amaya, S. Noffke, M. Osborne, M. Ostrosky, M. Perry, I. Rocha-Singh, J. Singleton, R. Stofflet, A. I. Willis, P. P. Zodiates, D. Zola

#### GRADUATE DEGREE PROGRAMS

The College of Education offers graduate work leading to the master of education, the master of arts, the master of science, the advanced certificate, the doctor of education, and the doctor of philosophy degrees.

Graduate students in the College of Education may enroll in one of the six departments listed above. The following suggests the broad range of specialties available within the college: aesthetic education; business, office, and distributive education; comparative education; continuing education and professional development; computer applications in education; counseling psychology; early childhood education; educational administration and supervision; educational psychology; elementary school subject specialties (mathematics, language arts, science, social sciences); statistics and measurement; higher education administration; history of education; educational policy analysis; human development; industrial education; language development; learning and instruction; philosophy of education; quantitative and evaluative research methodologies; reading; secondary education (English, mathematics, science, social science); sociocultural perspectives; special education (special learning and behavior problems, severe and moderate disabilities, early childhood education, early childhood intervention for infants and toddlers, vocational education for students with special needs, and skills improvement program administration); and teacher education (elementary, secondary, vocational, special). Other areas of specialization within education may be developed by the student and adviser. More detailed descriptions of specializations offered within departments are available through departmental offices.

#### CERTIFICATION

State certification as a teacher or administrator is required for advanced graduate study in some fields. The Council on Teacher Education functions as the all-University governance system for certification. Graduate students who wish to qualify for the council's recommendation for a teaching or administrative certificate must complete the appropriate undergraduate or graduate program or equivalent. The College of Education offers graduate-level certification programs in early childhood education, elementary education, moderate to severe disabilities, collaborative/resource teaching, and administration. Students are invited to contact the certification officer of the Council on Teacher Education (110 Education, 333-7195) for additional information.

#### MASTER OF EDUCATION

*Admission.* Students may be considered for admission if they are (1) graduates of an institution awarding a baccalaureate or equivalent degree comparable to that of the University of Illinois at Urbana-Champaign; (2) adequately prepared for advanced study as demonstrated by previous experience, personal qualifications, and scholastic records; and (3) recommended by the proposed department of study. In general, a 4.0 grade-point average ( $A = 5.0$ ) for the last 60 hours of the undergraduate program and for any previous graduate work is a minimum requirement for admission. The Graduate College admission requirements apply. Some departments in the College of Education require additional test scores of applicants.

*Program Description.* Within each of the departments in the College of Education exists a rich variety of practice-centered programs adaptable to the interests of beginning graduate students. The master of education is a professional degree designed for those students who seek a practical understanding to prepare them for work in the educational professions.

*Requirements.* A minimum of 8 units of study is required to meet degree requirements except in educational administration, which,

because of state certification, has a 10-unit requirement. Students are required to take two courses in educational psychology and two courses in educational policy studies. In educational psychology, one course is selected from the psychological foundations of learning area (Educational Psychology 311, 313, or 314), and one course is selected from the psychological foundations of personality and development area (Educational Psychology 312, 315, or 316). In educational policy studies, one course is selected from the social foundations area (Educational Policy Studies 300, 302, 303, 309, 310, 311, 312, 314, or 315) and a second course is selected from the philosophical foundations area (Educational Policy Studies 301, 304, 305, 306, 307, or 308). Students may take proficiency examinations in any of these required courses. Three units of 400-level courses in education are required, and the program is completed by additional 300- or 400-level courses selected by students in consultation with an academic adviser. Individual departments in the college may require a student to take additional courses beyond these to complete the program. The credit-no credit option may not be used to meet the minimum 8-unit requirement for this degree. No thesis is required for the Ed.M. degree.

#### MASTER OF ARTS AND MASTER OF SCIENCE

Admission requirements are the same as those for the master of education degree.

*Program Description.* An extensive offering of research-based programs may be found in the college. All the specialties listed earlier may be pursued from a research perspective. The A.M. and M.S. are research-oriented degrees designed for students who seek research careers in education-related fields.

*Requirements.* A minimum of 8 units of study is required to meet degree requirements, except in educational administration and counseling psychology, which require 10 units. Students must take two courses in educational psychology and two courses in educational policy studies. In educational psychology, one course is selected from the psychological foundations of learning area (Educational Psychology 311, 313, or 314), and one course is selected from the psychological foundations of personality and development area (Educational Psychology 312, 315, or 316). In educational policy studies, one course is selected from the social foundations area (Educational Policy Studies 300, 302, 303, 309, 310, 311, 312, 314, or 315) and a second course is selected from the philosophical foundations area (Educational Policy Studies 301, 304, 305, 306, 307, or 308). Students may take proficiency examinations in any of these required courses. Three units of 400-level courses in education are required (thesis research not included). Individual departments may require students to take additional courses to complete a program. The credit-no credit option may not be used to meet the minimum 8-unit requirement for this degree. No more than 2 units of thesis research credit count toward the minimum 8 units. Each student must defend the required thesis in an oral examination before a committee of three faculty members chaired by the student's adviser.

#### ADVANCED CERTIFICATE IN EDUCATION

*Admission.* A master's degree in an appropriate field and two years of successful professional education experience are required for admission to the advanced certificate program. Some advanced certificate specializations require students to submit Miller Analogies Test scores for admission.

*Program Description.* The advanced certificate may be pursued in educational organization and leadership; curriculum and instruction; educational psychology; special education; and vocational and technical education. The advanced certificate program is intended for students who desire a planned course of study beyond the master's degree, but do not wish to pursue the type of scholarly work typically expected in a doctoral program.

*Requirements.* A minimum of 8 units beyond the master's degree is required for the degree; 4 units must be at the 400-level. A student who has not previously taken the foundations courses in educational psychology and educational policy studies required for the Ed.M., A.M., or M.S. degree must do so or pass proficiency examinations for these courses. The credit-no credit option may not be used to satisfy the minimum requirements for this degree.

#### DOCTOR OF EDUCATION

*Admission.* Applicants for study leading to Ed.D. must submit a complete application for admission, including three letters of reference and official transcripts of all previous undergraduate and gradu-

ate work. In addition, most departments within the college require either the Miller Analogies Test or the Graduate Record Examination. Applicants should contact departments concerning requirements for submission of test scores and other information. The applicant must hold a master's degree with a major in education or another related subject from an institution whose degrees are comparable to those of the University of Illinois at Urbana-Champaign. In general, a 4.0 grade-point average ( $A = 5.0$ ) for the last 60 hours of the undergraduate program and for any previous graduate work is a minimum requirement for admission to the Ed.D. program. The general admission requirements of the Graduate College must be met.

**Program Description.** Students may study any of the broad range of specialties listed on page 196. Programs leading to the Ed.D. degree are planned by each student with an adviser to provide advanced professional training and to develop further ability in the scholarly study of professional practice-centered problems.

**Requirements.** The Ed.D. degree requires 16 units of credit beyond the master's degree, including at least 6 units of course work in the area of specialization or related area and up to 4 units of thesis research credit. Acceptance of credit earned elsewhere does not reduce the Graduate College resident requirement. Within the required 16 units, a student must complete two perspective course options of 2 units each, designed to help in understanding and interpreting the developing practitioner-scholar role, and two additional courses in research methods. (See the College of Education *Graduate Programs Handbook* for a more detailed description of suitable course work.)

The College of Education required Ed.D. candidates to complete a continuous residence of 4 consecutive terms (including summers) in an approved full-time combination of academic courses and professional experiences. Plans describing ways in which academic work can be integrated with professional experience during the residency will be on file in the department office.

Near the end of course work and before admission to the oral preliminary examination, the applicant must take written qualifying examinations in the general field of study embraced by the home department or division, in a special field covering an area of specialization proposed by the student with the concurrence of the adviser, and in research methodology. Additional written or oral examinations may be required by some departments or areas of specialization. Each portion of the examination is read and evaluated separately by three readers. All parts of the examination must be judged competent doctoral work by all readers.

An Ed.D. candidate must complete a thesis in accordance with the general requirements of the Graduate College; no more than 4 units of thesis credit may be used to meet the 16-unit requirement. A student who has completed course work taken as part of the requirements for the advanced certificate in education at the University of Illinois at Urbana-Champaign may petition for the application of not more than 6 units of such work toward the program leading to the doctor of education, provided that the course work has been taken within five years of the date of petition.

#### DOCTOR OF PHILOSOPHY

**Admission.** Applicants for study leading to the Ph.D. must submit a complete application for admission, including three letters of reference and official transcripts of all previous undergraduate and graduate work. In addition, most departments within the college require either the Miller Analogies Test or the Graduate Record Examination. Applicants should contact departments concerning requirements for submission of test scores and other information. The applicant must hold a master's degree with a major in education or another related subject from an institution whose degrees are comparable to those of the University of Illinois at Urbana-Champaign. In general, a 4.0 grade-point average ( $A = 5.0$ ) for the last 60 hours of the undergraduate program and for any previous graduate work is a minimum requirement for admission to the Ph.D. program. The general admission requirements of the Graduate College must be met.

**Program Description.** Students may study any of the specialties listed on page 196. The Ph.D. program is planned by each student with an adviser to develop the student's ability to do scholarly research in a specialized field of education.

**Requirements.** The Ph.D. degree requires 16 units of credit beyond the master's degree, including up to 8 units of thesis research credit. Acceptance of credit earned elsewhere does not reduce the Graduate College resident credit requirement. The College of Education re-

quires a residence period beyond the master's, which must include two successive semesters of full-time study on the UIUC campus. Each candidate will satisfy an early research requirement early in the program under the guidance of a research committee. Ph.D. candidates also complete an approved supervised professional work experience that is at least the equivalent of half-time work for one semester. This requirement must be completed between admission and the completion of degree requirements.

A Ph.D. candidate is required to demonstrate competence in one of several research methodology areas. The four courses typically submitted as part of this demonstration are taken in addition to the minimum of 16 units of credit beyond the master's degree. Requirements for all research methodology areas are available in the Graduate Programs Office, College of Education.

Near the end of course work and before admission to the oral preliminary examination, a Ph.D. candidate must complete written qualifying examinations in the general field of study embraced by the home department or division, and in a special field covering an area of specialization proposed by the student with the concurrence of the adviser. Additional written or oral examinations may be required by some departments or areas of specialization. Each portion of the examination is read and evaluated separately by at least three readers. All parts of the examination must be judged competent doctoral work by all readers.

A Ph.D. candidate must complete a thesis in accordance with the general requirements of the Graduate College; no more than 8 units of thesis research credit may be applied to the 16-unit requirement.

#### FINANCIAL AID

All major doctoral programs have limited teaching and research assistantships available. Some fellowships and tuition and service fee waivers are also available. In the past a majority of doctoral students have received some form of financial aid during their period of study. Additional information concerning financial aid can be obtained from the six departmental offices listed on page 196.

## ELECTRICAL AND COMPUTER ENGINEERING

**Head of the Department:** T.N. Trick

**Correspondence and Information:** Graduate Programs, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 155 Everett Laboratory, 1406 West Green Street, Urbana, IL 61801; (217) 333-0207

#### GRADUATE FACULTY

**Professors:** I. Adestis, A.N. Ahuja, P. Banerjee, M. T. Basar, J. W. Beauchamp, S. Bishop, R. E. Blahut, W. C. Chew, S. L. Chuang, J. J. Coleman, T. A. DeTemple, F. Dunn, J. G. Eden, M. Feng, S. J. Franke, L. A. Frizzell, W. K. Fuchs, C. S. Gardner, G. Gross, B. Hajek, I. N. Hajj, K. Hess, N. Holonyak, Jr., T. S. Huang, B. J. Hunsinger, R. Iyer, W. K. Jenkins, S. M. Kang, K. Kim, E. Kudeki, P. R. Kumar, M. J. Kushner, J. P. Leburton, S. W. Lee, M. C. Loui, J. W. Lyding, R. L. Magin, R. Mittra, D. C. Munson, Jr., W. D. O'Brien, Jr., B. Oakley II, M. A. Pai, J. H. Patel, W. R. Perkins, P. L. Ransom, N. N. Rao, D. V. Sarwate, P. W. Sauer, C. F. Sechrist, Jr., G. E. Stillman, T. N. Trick, J. R. Tucker, R. J. Turnbull, P. Van Dooren, B. W. Wah

**Associate Professors:** Y. Bresler, D. J. Brown, K. Y. Cheng, K. Gallivan, K. C. Hsieh, W. M. Hwu, D. L. Jones, P. T. Krein, H. Merklo, H. Morkoc, C. Polychronopoulos, U. Ravaoli, R. Saleh, B. S. Song, B. C. Wheeler, P. C. Yew

**Assistant Professors:** B. Bamieh, D. J. Brady, S. E. Hutchinson, J. Jin, Z. P. Liang, U. Madhoo, S. Meyn, E. Michielson, F. Najm, M. T. Orchard, T. Overbye, G. Papen, K. Ramachandran, E. Rosenbaum, D. G. Saab, J. E. Schutt-Aine, A. Vardy, A. Webb, K. Zeger

#### GRADUATE DEGREE PROGRAMS

The department offers graduate study and research in electrical and computer engineering leading to the degrees of master of science and doctor of philosophy. Courses and research opportunities are offered in four general areas: computer engineering and computational science, which includes computer architecture, VLSI design and CAD tools, hardware, software and applications, fault tolerance, testing, performance evaluation, computer vision, robotics, and algorithms and complexity; fields and waves, which include electromagnetics, antennas, millimeter wave-integrated circuits, radar scattering, propagation, atmospheric and ionospheric studies, and remote sensing; physical and quantum electronics, which includes solid-state theory and devices, compound-semiconductor epitaxial growth techniques,



microwave and high-speed devices, electrophysics, optical electronics, plasmas, gaseous electronics, and charged particles; and systems, which includes integrated circuits, computer-aided design, signal and image processing, communication systems, coding and information theory, communication networks, control systems, optimization, power and energy systems, and power electronics. In addition, the department cosponsors or participates in interdisciplinary areas of specialization in bioengineering, nuclear engineering, radioastronomy, biomedical instrumentation, ultrasonics, electronic music, radiation oncology, and nutritional sciences.

#### ADMISSION

Applicants must have completed an electrical engineering curriculum or a computer engineering curriculum substantially equivalent to those of the University of Illinois at Urbana-Champaign. A minimum GPA of 4.0 ( $A = 5.0$ ) on the last sixty hours is required. However, because of space limitations, applicants with GPAs below 4.5 are rarely admitted. All applicants must submit scores from the general test of the Graduate Record Examination. Applicants with master's degrees are admitted only if a faculty member is willing to serve as the Ph.D. thesis adviser. Accordingly, such applicants should write or call prospective Ph.D. advisers and discuss their research interests and potential Ph.D. thesis topics well in advance of application deadlines.

Graduates of curricula in the physical sciences, mathematics, and computer science may be admitted with limited standing if they are judged to have the necessary background to profit from graduate work in electrical and computer engineering. Such students are admitted to full standing after completing course work to remove deficiencies.

#### MASTER OF SCIENCE

The M.S. degree requires 8 units of credit and a thesis. At least 5 units must be at the 400 level in electrical and computer engineering. A master's thesis requiring 2 units of credit must be submitted by all candidates. Thesis credit is included in the required 8 units and may be applied to the 400-level course requirement. There is no final examination for the M.S. degree.

#### DOCTOR OF PHILOSOPHY

Admission to Ph.D. candidacy is based on the faculty's evaluation of the student's research potential, scholastic competence as evidenced by grades and class ranks, and satisfactory performance on the Ph.D. qualifying examination. Students admitted with bachelor's degrees take this examination after completing 6 units of course work, including at least three 400-level courses with at least two of them in electrical and computer engineering. Students admitted with master's degrees take the examination after completing 2 units of course work, including at least one 400-level course in electrical and computer engineering. A minimum graduate GPA of 4.25, as well as a minimum GPA of 4.25 on 400-level course work, is required in order to be considered for admission to Ph.D. candidacy.

The minimum requirements for the degree of doctor of philosophy are 8 units of course credit beyond the master's degree (or the equivalent), successful completion of the preliminary examination, 8 units of thesis research, a satisfactory thesis, and satisfactory defense of the thesis in a final examination. No foreign language proficiency is required.

#### JOINT DEGREE PROGRAMS

A joint degree program leading to the degrees of master of science in electrical engineering and master of business administration is offered in cooperation with the Department of Business Administration. Separately, the two degrees require a total of 24 units of credit; the joint degree program reduces the required credit to 19 units through an exchange of credits between the departments. Applicants must meet the admissions standards for both departments and be accepted by both departments. The degrees are awarded simultaneously after the requirements for both degrees have been met.

The department participates in the Medical Scholars Program, which allows students to pursue simultaneously the degrees of doctor of philosophy in electrical engineering and doctor of medicine. A separate application to the College of Medicine is required. Applicants must be accepted by the College of Medicine and by the department in order to participate in this program. For information, write to the coordinator, Medical Scholars Program, College of Medicine at Urbana-Champaign, 190 Medical Sciences Building, 506 South Mathews Avenue, Urbana, IL 61801.

#### EXTRAMURAL STUDY

Off-campus students who wish to pursue graduate degree programs from UIUC must apply and be accepted for admission as degree candidates in the Graduate College. It is recommended that students apply for admission before or during the semester in which they take their first off-campus courses. Students who are admitted as degree candidates after having completed one or more extramural courses without being admitted to the Graduate College may petition the Graduate College to apply a maximum of 3 units of such course work toward the degree requirements. For further information, write to the Office of Continuing Engineering Education, 422 Engineering Hall, 1308 West Green Street, Urbana, IL 61801.

#### FINANCIAL AID

Fellowships, research assistantships, and teaching assistantships (all of which include tuition and fee waivers) are available for the majority of students who are admitted. International applicants generally are not awarded teaching assistantships but are eligible for the other forms of financial aid.

#### ENGLISH

*Head of the Department:* Richard Wheeler

*Director of Graduate Studies:* Leon Waldo

*Correspondence and Information:* Director of Graduate Studies, Department of English, University of Illinois at Urbana-Champaign, 210 English Building, 608 South Wright Street, Urbana, IL 61801; (217) 333-3646

#### GRADUATE FACULTY

*Professors:* G. Adelman, D. Baron, N. Baym, E. Brandabur, R. Carringer, L. Chai, H. Cole, M. Costello, G. Douglas, J. Dundas, J. Dussinger, J. Frayne, J. Friedman, P. Friedman, P. Garrett, A. Gubbory, G. Hendrick, J. Hurt, D. Kramer, L. Lieberman, C. Neely, C. Nelson, R. Parker, M. Shapiro, J. Stillinger, J. Thompson, M. VanWalleghen, L. Waldo, E. Watts, R. Wheeler

*Associate Professors:* M. Berube, G. Colomb, A. Deck, C. Fontenot, P. Graham, G. Hawisher, J. Hinely, A. Kaufman, D. Kay, B. Kelly, J. Klein, C. Kyle, D. Majdak, B. Michelson, M. Mullin, B. Smalley, J. Stottlar, Z. Sullivan, C. Wright

*Assistant Professors:* A. Anderson, A. Blakeslee, E. Bohls, D. Cruickshank, R. Curry, S. Foote, D. Jacobson, J. Lyon, M. Madonick, W. Maxwell, M. Pemberton, P. Prior, N. Roberts

#### GRADUATE DEGREE PROGRAMS

The Department of English offers programs of study leading to the master of arts and the doctor of philosophy degrees. The Ph.D. program is, in general, designed to educate and train teacher-scholars who will take positions in colleges and universities throughout the country. The master of arts program may be either a first step toward the Ph.D. degree or a final educational stage for qualified students who wish to pursue their knowledge of English and American language and literature beyond the undergraduate level. Both the A.M. and Ph.D. degrees may be earned with a specialization in writing studies. There is no graduate creative writing program.

#### ADMISSION

A student who wishes to be considered for admission to graduate work in English must present the equivalent of at least 20 semester hours of undergraduate college work in English and American literature, excluding required college work in rhetoric or composition. Applicants are required to submit Graduate Record Examination scores for the verbal and advanced tests. Because applications for admission usually far exceed capacity, in recent years undergraduate grade-point averages of students admitted have been significantly higher than the 4.0 ( $A = 5.0$ ) required by the Graduate College. The committee on admissions tends to select those applicants who have a solid array of undergraduate courses, knowledge of a foreign language, an academic record that shows promise of doing outstanding work in the field, and real promise of earning degrees within a reasonable time. Preference is given to applicants who will be full-time students and active degree candidates.

#### MASTER OF ARTS

A candidate for the A.M. in English must spend at least two semesters or the equivalent in residence and complete at least 8 units of course work. At least 4 units must be at the 400 level, and 3 of the 4 must be in English. The student must show a knowledge of one foreign language equivalent to that acquired by three years of undergraduate course work. The student must pass, on formal examination, the

master's area examination. A full-time student can complete this program in an academic year.

#### DOCTOR OF PHILOSOPHY

A student wishing to continue beyond the master's degree must apply formally and is considered in competition with applicants who are taking the master's degree elsewhere. Seldom are applicants accepted with graduate averages below 4.5. A student who has taken the master of arts degree elsewhere must give evidence of knowledge of one foreign language on a level equivalent to that required of A.M. candidates in the English department's program. The student takes 8 units of course work, planned in consultation with an adviser. There are no general requirements for further foreign language work, philology-linguistics, or outside minors, although certain fields of specialization do require further work along these lines. There is one formal examination, the special field examination, which is usually taken as the student completes course work and prepares to write the thesis. The student then goes on to write a thesis under the direction of a committee composed of three professors. A total of 16 units beyond the master's degree, including thesis credits, are required. A full-time student can complete this program in three years beyond the master's degree.

#### FINANCIAL AID

Financial aid is available to students in the form of fellowships, teaching assistantships, and waivers of tuition and service fees. Applicants are considered at only one time of the year, and the deadline for submitting applications is January 15. For complete information about the program, prospective applicants should write to the above address for the department's handbook on graduate studies in English.

### ENGLISH AS AN INTERNATIONAL LANGUAGE

*Director of the Division:* Eyamba G. Bokamba

*Correspondence and Information:* Director, Division of English as an International Language, University of Illinois at Urbana-Champaign, 3070 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-1506

#### GRADUATE FACULTY

*Professors:* E. Bokamba, C.C. Cheng, W. Dickerson, H. Hock, B. Kachru, Y. Kachru, C.-W. Kim, C. Kramarae, H. MacLay, S. Savignon, L. Zgusta

*Associate Professors:* L. Bouton, J.R. Cowan, G. Cziko, M. Mack, E. McClure

*Assistant Professors:* D. Cruickshank, F. Davidson, S. Gonzo, N. Markee,

S. Taylor, M. Temperley

*Emeritus Professor:* K. Aston

#### GRADUATE DEGREE PROGRAM

The Division of English as an International Language offers a master of arts in the teaching of English as a second language (M.A.T.E.S.L.).

#### ADMISSION

In addition to meeting the Graduate College admission requirements, applicants should present evidence of appropriate academic preparation in a relevant discipline such as English, linguistics, a foreign language, or a teacher-training curriculum in one of the above. Native speakers of English must have studied at least one foreign language for four semesters or the equivalent, or demonstrate an acceptable proficiency in a foreign language. Non-native speakers of English must demonstrate an acceptable proficiency in English by attaining a score of at least 570 on the TOEFL examination. All applicants to the M.A.T.E.S.L. curriculum who are not native speakers of English must take the TOEFL examination, even when the requirement for that examination has been waived by the University itself.

#### MASTER OF ARTS IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE

The program leading to this degree requires candidates to complete a minimum of 10 units of course work and either a written comprehensive examination or a thesis. Usually candidates can meet all degree requirements in two years.

The M.A. program offers two separate curricula or tracks. One track is designed for candidates whose principal interests are in language pedagogy and related research. The other track encourages candidates to concentrate more heavily on applied research in various aspects of English studies, such as those listed below under faculty specializations. A detailed description of the two M.A. tracks is available upon request.

The doctor of philosophy degree, an option in applied linguistics and the teaching of English as an international language, is available through the Department of Linguistics and the interdisciplinary program in second language acquisition and teacher education (SLATE). Members of the graduate faculty of the Division of English as an International Language are available to serve on doctoral committees. Faculty specializations include neurolinguistics, sociolinguistics, psycholinguistics, language testing, contrastive discourse, lexicography of English, stylistics, language processing, reading, literacy, pragmatics, computers in second language acquisition and learning, methodology of language teaching, curriculum design, and English in the world context. Applicants interested in working toward a doctorate in linguistics should write to the head, Department of Linguistics, University of Illinois at Urbana-Champaign, 4088 Foreign Language Building, 707 South Mathews Avenue, Urbana, IL 61801. Those interested in SLATE should write to the chair, SLATE Program, University of Illinois at Urbana-Champaign, 3070 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801.

#### FINANCIAL AID

Financial assistance is not usually awarded during a M.A.T.E.S.L. candidate's first semester. Exceptions to this policy are sometimes made when an applicant has had extensive experience in teaching English as a second language or has an outstanding academic record. A limited number of University fellowships are available for exceptionally qualified candidates. Teaching assistants teach students in the division's ESL program and in the Intensive English Program, which is a constituent unit of the division.

### ENVIRONMENTAL STUDIES

*Director of the Institute:* Roger A. Minear

*Correspondence and Information:* Institute for Environmental Studies, University of Illinois at Urbana-Champaign, 1101 West Peabody Drive, Urbana, IL 61801

#### GRADUATE FACULTY

*Professors:* R. J. Burdge, D. M. Gardner, L. G. Hansen, L. D. Hopkins, R. A. Larson, R. A. Minear, M. J. Plewa, G. L. Rolfe, W. D. Seitz

*Associate Professors:* B. M. Francis, E. H. Jeffery, K. N. Paige, D. G. Simpson, J. Vining

*Assistant Professor:* S.L. Schantz

*Emeritus Professors:* B.B. Ewing, R.L. Metcalf

The Institute for Environmental Studies coordinates and supports programs of research, teaching, and public service in areas related to environmental quality. Although the institute does not offer degree programs, it offers graduate-level courses on environmental subjects and provides opportunities for students working within specific disciplines to participate in interdisciplinary environmental research.

The institute's close ties with many other campus units make it possible for students seeking graduate degrees from those units to engage in environmental research within the institute's varied interdisciplinary program. Current scholarly research at the institute addresses a wide range of significant environmental problem areas, including environmental toxicology, environmental mutagens and carcinogens, water quality and water resources management, effects of pollution on biological systems, environmental chemistry, social and economic impacts of resource development, methods of environmental risk assessment, analysis of environmental perception and decision making, economics of environmental regulation, and environmental quality management. Institute faculty—who represent such diverse disciplines as genetics, chemistry, pharmacology, teratology, ecology, engineering, economics, leisure studies, psychology, sociology, and statistics—direct graduate research of students enrolled in a wide variety of degree programs on campus.

The interdisciplinary environmental toxicology program, coordinated by the institute, offers specialized training in the study of toxic substances in the environment. This program has recently been expanded to provide a concentration in the health effects of environmental toxicology. Graduate students with backgrounds in fields such as the life sciences, health sciences, chemistry, or engineering are eligible to apply for admission to the program. Faculty from several University schools and colleges participate in the program's teaching and research activities and serve as research advisers to its students. In addition to completing a core of course work in environmental toxicology, degree candidates must satisfy the requirements of the cooperating graduate unit in which they are enrolled. Financial support is

available through a limited number of graduate research assistantships for which students may apply through the institute. A brochure describing the program and the requirements for admission and graduation is available from the institute.

The institute's interdisciplinary program in environmental mutagens and carcinogens complements the graduate degree specialization in environmental toxicology described above. The objectives of this program are to develop methods to detect and identify mutagenic substances; determine their sources, transport, transformations, and fate in the environment; evaluate exposures to target organisms; and evaluate the economic and social impacts of these exposures.

Further information on opportunities for graduate education in environmental studies at the University of Illinois at Urbana-Champaign is provided in *Environmental Graduate Programs*, a brochure available from the institute. Also available is a comprehensive listing of environmental courses currently offered by the institute and by other campus units.

## EXTENSION EDUCATION

*Head and Graduate Adviser:* James F. Evans

*Correspondence and Information:* Extension Education, University of Illinois at Urbana-Champaign, 124 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801

### GRADUATE DEGREE PROGRAM

The master of extension education program is an interdisciplinary professional degree program designed to serve persons employed, or desiring employment, in non-formal education positions with organizations such as the Cooperative Extension Service and other educational institutions, governmental bodies, non-profit agencies, and agribusiness.

### ADMISSION

Applicants must hold a bachelor's degree from an accredited institution and meet admission requirements of the Graduate College.

### DEGREE REQUIREMENTS

The program consists of a minimum of 8 units with a thesis or 9 units with a professional paper. Three units must be in 400-level courses, with 2 of those in the candidate's focus area. Beyond the core course requirements, a candidate selects 4 units in a focus area of study such as administration/program management, adult education, agriculture, communications, human resource and family living, international studies, volunteer management and youth development. The program accommodates extramural course work.

## FINANCE

*Chair of the Department:* Charles M. Linke

*Correspondence and Information:* Department of Finance, University of Illinois at Urbana-Champaign, 340 Commerce West Building, 1206 South Sixth Street, Champaign, IL 61820-6271; (217) 333-2110; FAX: (217) 244-3102

### GRADUATE FACULTY

*Professors:* W. R. Bryan, P. F. Colwell, S. P. D'Arcy, J. E. Finnerty, J. A.

Gentry, J. Lakonishok, C. M. Linke, J. R. Ritter

*Associate Professors:* E. Brewer III, C. W. Calomiris, R. E. Cannaday, L.

K. Chan, N. Jegadeesh, M. J. Lyng, Jr., H. Y. Park, G. G.

Pennacchi, D. T. Whitford

*Assistant Professor:* V. G. France

*Professor Emeritus:* Ivan O. Bull

### GRADUATE DEGREE PROGRAMS

The Department of Finance offers graduate work leading to the master of science and doctor of philosophy degrees. The following fields are available for specialization: banking and financial institutions, business finance, insurance and risk management, investments, and real estate and urban economics.

### ADMISSION

The minimum required admission grade-point average is 4.0 (A = 5.0). To be admitted without deficiencies, the applicant should have completed an undergraduate course in computer science, financial accounting, managerial accounting, and principles of economics and two courses each in calculus, probability and statistics, and financial management. Courses to remove deficiencies may be taken after beginning the program, but such courses will not count toward the departmental requirements for graduation. All applicants (except those for the M.S. with a specialization in international finance) are

required to submit Graduate Management Admission Test scores. Most international applicants are also required to submit Test of English as a Foreign Language scores. The test scores will be used by the Graduate Standards Committee, along with other information, in evaluating the applicant's qualifications for graduate study.

### MASTER OF SCIENCE

A master of science degree is available for students in the Ph.D. program. Ph.D. students may earn a master's degree as they work toward the Ph.D. degree. Students interested in a terminal master's degree are not admitted to the Ph.D. program. Options available at this University for a terminal master's degree in finance include the M.S. in finance with a specialization in international finance described below, and the M.B.A. with a track in finance as described under the section on business administration.

### MASTER OF SCIENCE IN FINANCE AND MASTER OF ARCHITECTURE

The Department of Finance and School of Architecture offer a joint master's program. Approval of admission to the Graduate College through the School of Architecture must be obtained before applications for the joint program will be considered by the Department of Finance. Program prerequisites are a baccalaureate degree in architecture, including Computer Science 102 and Mathematics 120 to 132 (or equivalent), and background courses in finance which may be met by graduate course requirements. Required courses for the joint program consist of 2 units of economic theory; 3 units of quantitative methods; 4 units in finance; 4½ units of architectural core courses; 5 units of architectural options courses; and 3 units of the financial management sequence in business management. Other electives normally required for each individual degree are met by the simultaneously granted degrees. The joint master's program degrees are granted when these requirements, totaling 21½ units, are completed.

### MASTER OF SCIENCE IN FINANCE WITH A SPECIALIZATION IN INTERNATIONAL FINANCE

The Master of Science Program in International Finance is a one-year program designed primarily for practitioners in finance-related positions with international firms or agencies. All candidates are required to complete at least 10 units of course work in finance, economic theory, and quantitative methods. The program is designed to be completed in 12 months. However, certain participants may want to obtain more in-depth information about a specific area, or they may need additional time to complete the degree. Thus, it is possible to study for one or two additional semesters on campus. Additional costs are charged for further study beyond the prescribed program.

To be eligible for the program, applicants must have earned a bachelor's degree in finance, economics, or some related business discipline. Applicants with undergraduate degrees in other fields may also qualify if they have completed three years of employment in a finance-related job.

The admission requirements of the University of Illinois Graduate College apply, which include completion of a bachelor's degree, with a "B" or better grade-point average (4.0 on a 5.0 scale) during the last 60 hours of course work from an accredited college in the U.S. or a recognized institution of higher learning from other countries. In addition, all foreign applicants must take and achieve a satisfactory score on the Test of English as a Foreign Language (TOEFL). The current minimum score on the TOEFL is 550. Students submitting scores of 550 or above but below 607 may be admitted to the program, but will be required to take the English Placement Test before being allowed to register for classes. The results of the test will determine if the student must take remedial English courses while enrolled in the program. If necessary, intensive English courses can be taken prior to admission to the program at the student's or sponsor's expense. Admission of foreign applicants can only be completed after the financial certification requirement is satisfied. The total of tuition and fees for the twelve-month program is \$21,000. Applicants will not be admitted until evidence of financial support/ability is verified.

The program begins in June of each year. The admissions process starts in January and applications are reviewed as soon as they are complete. Applications are considered as long as space is available, but candidates are advised to submit their application materials by March 15 for equal consideration.

### DOCTOR OF PHILOSOPHY

The first stage toward the degree of doctor of philosophy ends when the candidate receives a master's degree in finance or earns the equivalent credit (a minimum of 8 units at this University or 32 semester hours or 48 quarter hours of acceptable work at another



recognized university); the second stage comprises certain minimum course work, fulfillment of other departmental requirements, and successful completion of preliminary examinations; the third stage includes research, preparation of the dissertation, and the final examination. The minimum number of units required for the second and third stages combined is 16. A student plans courses and research with his or her adviser. Consideration is given to previous academic training, career objective, and the general requirements of the Graduate College and the department. The student should become familiar with these requirements and satisfy them as soon as possible.

To enter the third stage of the doctoral program, a candidate must pass preliminary examinations to test his or her qualifications for further advanced study and research. The examinations are written and oral. Written preliminary examinations are required for two fields in finance and, if offered, for one elective area. An oral defense of the proposal for the dissertation is the final step in the second stage.

The doctor of philosophy is primarily a research degree, and the candidate must demonstrate the capacity for independent research by producing an original thesis on a topic within his or her major field of study. The subject of the thesis must be reported to the doctoral committee and to the Graduate College at the time of the preliminary examination. The candidate is admitted to the final oral examination by the dean of the Graduate College upon completion of the dissertation and the recommendation of the department.

## FOOD SCIENCE

*Head of the Department:* Bruce M. Chassy

*Correspondence and Information:* William E. Artz, Graduate Admissions Coordinator, Department of Food Science, University of Illinois at Urbana-Champaign, 382 Agricultural Engineering Sciences Building, 1304 West Pennsylvania Avenue, Urbana, IL 61801; (217) 333-9328

### GRADUATE FACULTY

*Professors:* I. C. Batanu, H. P. Blaschek, B. M. Chassy, M. Cheryan, J. W. Erdman, P. V. Johnston, B. P. Klein, S. E. Martin, T. Nishida, E. G. Perkins, L. S. Wei

*Associate Professors:* C. J. Argoudelis, W. E. Artz, B. H. Cho, S. J. Schmidt  
*Assistant Professors:* M. D. Berber-Jimenez, L. B. Dunn, R. Jimenez-Flores, S. A. Morris, N. F. Shah

### GRADUATE DEGREE PROGRAMS

The Department of Food Science offers graduate work leading to the master of science and doctor of philosophy degrees. In addition to receiving training in the general field of food science, students have the opportunity to do research in the following areas of specialization as they relate to food products: processing-engineering, chemistry, microbiology, nutrition, packaging, biotechnology, and sensory analysis.

### ADMISSION

In addition to meeting the Graduate College admission requirements, a student planning to major in food science should have a baccalaureate degree in a recognized field of biological, physical, agricultural, or engineering science. Background deficiencies may be removed with graduate credit courses designed for this purpose.

### MASTER OF SCIENCE

To obtain a master's degree, a student must have 24 units in food science. The remainder of the 8 units of credit required consists of graduate courses selected from inside or outside the department that are appropriate for the training and development of the student in the field of specialization. At least 3 units must be at the 400 level (¼ unit of this is seminar). A thesis may be required at the option of the candidate and adviser. An oral examination covering the field of food science and the area of the candidate's specialization is also required. Students whose native language is not English are required to demonstrate competence in English by passing English as a Second Language 111.

### DOCTOR OF PHILOSOPHY

In addition to the courses required for the master's degree, candidates for the doctor of philosophy degree must have additional credit in seminar (¼ unit) and thesis research (8 units). The remainder of the 16 units required for the degree consists of graduate courses selected from inside or outside the department that are appropriate for training in the student's field of specialization. The student must demonstrate proficiency in one foreign language or complete a special option approved by the department, which is not counted as part of the 16

required units of credit. Students whose native language is not English must pass English as a Second Language 401. Upon completion of all necessary formal courses and special options, the student is required to take an oral preliminary examination. After passage of the preliminary examination, the student's activities are primarily devoted to thesis research. Upon submission of the thesis, the candidate is admitted to the final oral examination before a graduate faculty committee. The Ph.D. degree in food science may be combined with the study of medicine in the University of Illinois at Urbana-Champaign Medical Scholars Program.

### SPECIALIZATION IN GENETICS

The Department of Food Science offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

### FINANCIAL AID

Financial aid for graduate students in food science is available in the form of fellowships, teaching and research assistantships, and tuition and partial fee waivers. Qualified candidates are considered for financial support upon application. Graduate students making satisfactory progress toward their degree generally receive a full tuition waiver and a partial fee waiver, as well as a stipend.

## FORESTRY

*Head of the Department:* G. L. Rolfe

*Correspondence and Information:* Department of Forestry, University of Illinois at Urbana-Champaign, W-503 Turner Hall, 1102 South Goodwin, Urbana, IL 61801; (217) 333-2770; FAX: (217) 244-3219

### GRADUATE FACULTY

*Professors:* S. Brown, P. Chow, J. O. Dawson, L. L. Getz, E. E. Herricks, G. L. Rolfe, R. M. Skirvin

*Associate Professors:* M. B. David, G. Z. Gertner, G. A. Mendoza, R. E. Warner

*Assistant Professors:* R. J. Brazee, J. D. China Rivera, D. A. Kovacic, D. W. Onstad, N. J. Smith-Sebasto

*Adjunct:* A. Hill, D. J. Tazik, C. M. Weller, D. C. White

*Affiliate:* J. M. Cheeseman, E. H. Delucia, B. A. Orland, M. W. Schwartz

### GRADUATE DEGREE PROGRAM

The Department of Forestry offers graduate work leading to the master of science degree. The doctor of philosophy degree is not currently offered by the department, but qualified students may work toward this degree with a forestry adviser who holds a joint appointment in another department or is on the staff of an interdisciplinary doctoral program. Such areas of study include ecology, economics, physiological and molecular plant biology, soils, and wood science.

### ADMISSION

The prerequisite for graduate study in the Department of Forestry is a bachelor's degree in forestry or a related field. A grade-point average of 4.0 (A = 5.0) in the last 60 semester hours of undergraduate work plus any graduate work completed is required. Applicants who do not meet the minimum requirements are encouraged to take the Graduate Record Examination, as exceptions to these prerequisites are possible on an individual basis. Applicants whose native language is not English must score at least 550 on the TOEFL examination.

### MASTER OF SCIENCE

To qualify for the master of science degree, a student must earn at least 8 units of graduate credit, with at least 3 units in courses at the 400 level. At least half of the 8 units must be from courses meeting on the Urbana-Champaign campus or from courses approved by the Graduate College for residence credit, although meeting at other locations. Depending on their backgrounds, nonforestry graduates may be required to complete certain basic forestry courses in addition to the regular degree requirements. Programs are designed to serve the needs of each student in such areas as biometrics, ecology, economics, genetics, management, physiology, policy, soils, statistics, and wood science.

In most cases, a thesis is required, but it may be waived if such waiver will result in a more appropriate program for the individual student. The forestry seminar and a graduate-level statistics course

are required of all graduate students. There are no language or qualifying examination requirements.

#### RESEARCH INTERESTS

Major areas of faculty research include agroforestry; atmospheric deposition effects on forest soils; ecology of forested bottomlands; economics and management of Illinois forests in particular and national forests in general; economics of multiple use; biodiversity and tropical forestry; forest-soil relationships; forest tree improvement; management of forest vegetation in urban settings; tree physiology; modeling of forest growth, inventory, and analysis; oak regeneration; properties of wood composite materials; remote sensing and geographic information system analysis of forested landscapes; resource education; symbiotic nitrogen fixation by trees and shrubs; tropical forest ecology; utilization of low-grade hardwood species and plant residues; water quality and watershed management; and wood mechanics.

#### FINANCIAL AID

Besides University and other fellowships for which graduate students may compete, the Department of Forestry offers the Spaeth-Bogges Fellowship and a number of graduate research assistantships ranging from 25- to 67-percent time. Graduate assistants are exempt from tuition and the service fee, but not from the health service and insurance fees.

### FRENCH

*Head of the Department:* Douglas Kibbee

*Director of Graduate Studies:* Karen Fresco

*Correspondence and Information:* Department of French, University of Illinois at Urbana-Champaign, 2090 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 244-2721

#### GRADUATE FACULTY

*Professors:* E. Accad, H. De Ley, P. Gaeng, A. Hadley, J. Jahiel, A. K.

Mortimer, S. Savignon, E. Talbot

*Associate Professors:* K. Fresco, F. Jenkins, D. Kibbee, J. P. Mathy

*Assistant Professors:* L. Mall, N. Popescu, S. Shinnal, Y. Smith

#### GRADUATE DEGREE PROGRAMS

The Department of French offers graduate courses leading to the master of arts and the doctor of philosophy degrees. Candidates for the M.A. degree may specialize in literature, in expanded French studies, in French linguistics, or in the learning/teaching of French. Candidates for the Ph.D. degree may choose one of four specializations: literature, expanded French studies, French linguistics, or second-language learning and teaching.

#### ADMISSION

Students usually considered for admission to the M.A. program have an overall undergraduate admission average of 4.0 (A = 5.0) with an average in French of 4.5. Students should usually have had a college major in French. Entering students are given a diagnostic test to determine whether remedial study in French language courses is necessary. Some knowledge of other Romance languages and literatures is desirable. Students seeking admission to the Ph.D. program with a master of arts degree earned elsewhere are expected to have a 4.5 grade-point average in graduate courses. The master's degree should be in French literature or in French studies. Candidates seeking admission to the Ph.D. concentration in second-language learning and teaching may hold an M.A.T. degree.

#### MASTER OF ARTS

Candidates in all master's programs must complete 8 units of course work and pass an M.A. examination. Candidates in literature must take an M.A. examination based on a reading list covering the field of French literature. The examination in expanded French studies covers, in addition to readings in the field of French literature, material bearing on the candidate's field of specialization in French culture or related disciplines. The examination in linguistics is based on a list of readings in linguistics and in literature. The examination in French learning/teaching includes readings in second-language acquisition and teaching methods in addition to selected readings in French literature and/or civilization. Candidates in all programs are required to demonstrate, at the time of the master's examination, an ability to communicate effectively in both written and oral French.

#### DOCTOR OF PHILOSOPHY

Candidates in all programs must complete 16 units beyond the master's degree, including a minimum of 8 units of course work beyond the M.A. degree, and must pass a preliminary examination

and write an acceptable thesis. Although teaching is not a general Graduate College requirement, the Department of French requires Ph.D. candidates to do some teaching as part of their academic work, because such experience is considered a vital part of the graduate program.

#### PH.D. IN LITERATURE

This program is designed to prepare literary scholars and teachers. Candidates are required to include courses in research methods and textual criticism, linguistics or linguistically oriented textual theory, Old French, and French literature. Also required are 1) reading proficiency in one language other than French or English, and 2) one year of college Latin or the equivalent.

#### PH.D. IN EXPANDED FRENCH STUDIES

The doctoral program in expanded French studies allows for research in francophone literature or in the relation of French literature to some nonliterary discipline. Two of the required 8 units of course work beyond the M.A. degree may be taken in other departments or programs when available and approved by the graduate adviser. Candidates are required to include courses in French literature. Reading proficiency in one language other than French or English and one year of college Latin or the equivalent are required; or students may demonstrate high proficiency in one foreign language.

#### PH.D. IN FRENCH LINGUISTICS

This is a graduate curriculum that offers training in French historical and descriptive linguistics and philology. Students in this program are required to take 3 units in French literature and may elect up to 2 units of related work in other departments, in addition to a required course in the structure of French and either the history of French or a course in Old French. At the doctoral level, a concentration in Romance linguistics is available in cooperation with the Department of Spanish, Italian, and Portuguese; the Department of Linguistics; and the Department of the Classics.

#### PH.D. IN SECOND LANGUAGE ACQUISITION/TEACHER EDUCATION

The multidisciplinary Ph.D. concentration in second-language acquisition and teacher education is available to candidates with an M.A. or M.A.T. degree in French and at least one year of experience in teaching French as a second language. Candidates selecting this option are required to complete courses in linguistic theory, psycholinguistics and the psychology of language, sociolinguistics and sociocultural analysis, curriculum development, research methodology, advanced study in French language and culture, and selected courses from a group of rotating topics related to the individual's particular interests. Minimum requirements for the degree in all the participating departments are 16 units of credit beyond the master's degree.

#### FINANCIAL AID

Assistantships and University fellowships are awarded. Several graduate students each year spend the school year in France under a graduate exchange agreement with the French government. The department has also initiated exchange programs with the Universities of Dijon, Metz and Poitiers, France, the University of Liege, Belgium, and Laval University, Quebec.

### GENERAL ENGINEERING

*Head of the Department:* T.F. Conry

*Correspondence and Information:* Graduate Programs, Department of General Engineering, University of Illinois at Urbana-Champaign, 117 Transportation Building, 104 South Mathews Avenue, Urbana, IL 61801; (217) 333-2730

#### GRADUATE FACULTY

*Professors:* T. F. Conry, W. J. Davis, D. E. Goldberg, E. N. Kuznetsov, J. V. Medanic, L. D. Metz, M. W. Speng

*Associate Professors:* S. A. Burns, O. Coskunoglu, W. B. Hall, M. H. Moenizadeh, M. H. Pleck, H. L. M. dos Reis, D. L. Thurston, L. Wozniak

*Assistant Professors:* Y. S. Kim, R. S. Sreenivas, M. G. Strauss

#### GRADUATE DEGREE PROGRAM

The Department of General Engineering offers graduate study leading to the degree of master of science. The program consists of a core of required courses including a thesis or design project with supplementary courses selected by the student together with an adviser.

The program offers an approach to systems engineering and engineering design that crosses disciplinary lines. Graduates of the program are prepared to enter professional engineering positions in industry, government, and private practice. Graduate study and

research can be pursued in the following fields: computational design, optimization, design systems, manufacturing systems, nondestructive testing and evaluation, robotics, control, system dynamics and simulation, operations research/management science, and biomechanics.

#### ADMISSION

Applicants who have completed degree requirements in an accredited engineering program or its equivalent are eligible to apply for admission. Qualifications for admission include a minimum grade-point average of 4.0 (A = 5.0) for the last 60 hours of undergraduate work. The Graduate Record Examination is not required but is highly recommended. For students whose native language is not English, the department requires a minimum TOEFL score of 600.

#### MASTER OF SCIENCE

The minimum requirement for the degree is 8 units of credit with a thesis or 9 units without a thesis. Each candidate must successfully complete a minimum of 2 units of project design for the nonthesis degree or 1 unit of thesis research for the thesis degree. Each candidate must also successfully complete at least 7 additional units of graduate course work, of which at least 3 units must be at the 400 level; of these 7 units, at least 3 units must be courses offered by the department and 2 units must be at the 400 level.

It is possible to pursue the M.S. in general engineering and the M.B.A. degree simultaneously. The total time required is less than that needed to obtain both degrees independently. A total of 18 units of credit is required, including 4 units of work consistent with normal M.S.G.E. requirements, 12 units of M.B.A. core courses, and 2 units of project design, General Engineering 497. Separate admission to both departments is required, although only one application is necessary.

An extramural M.S.G.E. program is available to off-campus students in videotape and telecommunications formats.

In addition, many students who graduate with a B.S. and/or M.S. in general engineering continue to do graduate work at both the master's and Ph.D. levels in related departments such as civil engineering, computer engineering, computer science, electrical engineering, and mechanical and industrial engineering. Many faculty in the Department of General Engineering also hold joint appointments in other engineering departments at the University, enabling them to directly supervise Ph.D. students in these departments.

#### FINANCIAL AID

Qualified students may apply for financial aid in the form of teaching and research assistantships and waivers of tuition and service fees.

### GENETICS SPECIALIZATION

*Correspondence and Information:* Genetics Program, c/o the appropriate participating department listed below.

*Program Committee:* The Genetics Program is overseen by a committee of faculty members representing the three participating colleges (agriculture, liberal arts and sciences, veterinary medicine).

#### PARTICIPATING DEPARTMENTS

Agromony; Animal Sciences; Biochemistry; Cell and Structural Biology; Ecology, Ethology, and Evolution; Entomology; Food Science; Forestry; Horticulture; Microbiology; Physiology and Biophysics; Plant Biology; Plant Pathology; Veterinary Biosciences; and Veterinary Pathobiology.

#### GRADUATE DEGREE PROGRAMS

The principles of genetics are integral to many fields of biological sciences. For this reason, an interdisciplinary concentration in genetics is available for students enrolled in master's or doctoral degree programs in the participating departments listed above. All students must become proficient in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. The specific courses and program emphasis vary by department because of the broad nature of genetics research.

#### ADMISSION

The Genetics Program does not independently admit students or confer graduate degrees. Prospective students should address inquiries to the program office or to any of the above participating departments. Students are admitted to the program after their acceptance by one of the participating departments and review by the Genetics Program Executive Committee of the Graduate College. Students admitted to the program should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. All degree applicants must complete the requirements of the department

in which they are enrolled in addition to those of the Genetics Program.

### GEOGRAPHY

*Head of the Department:* C. E. Thorn

*Correspondence and Information:* Graduate Adviser, Department of Geography, University of Illinois at Urbana-Champaign, 220 Davenport Hall, 607 South Mathews Avenue, Urbana, IL 61801; (217) 244-3486

#### GRADUATE FACULTY

*Professors:* B. M. Hannon, G. J. D. Hewings, J. A. Jakle, D. L. Johnson  
*Associate Professors:* T. J. Bassett, T. D. Frank, S. A. Isard, B. L. Rhoads, C. E. Thorn, D. Wilson

*Assistant Professors:* B. H. Aten, E. Kalipeni, K. B. Newbold

#### GRADUATE DEGREE PROGRAMS

The Department of Geography offers work leading to the master of arts, master of science, and doctor of philosophy degrees. The department's specializations are organized into three programs: (1) economic geography/regional science (industrial location, transportation, techniques of urban and regional analysis, urban systems); (2) urban and rural development (social theory, political processes, urban morphology, cultural ecology and development, historic landscape analysis); and (3) physical geography (fluvial, periglacial, soil, Quaternary studies, remote sensing, geographic information systems). Detailed descriptions of these programs may be obtained from the departmental office.

#### DEPARTMENTAL FACILITIES

The department houses several laboratories: (1) the Spatial Data Analysis Laboratory is a facility for analysis of spatial patterns derived from maps, aerial photographs, and satellite images using computer cartography/image processing workstations; (2) the Cartography Laboratory has darkroom and drafting facilities; (3) the Soil Laboratory includes an X-ray diffractometer and a vacuum spectrometer; (4) the Geographic Information Systems (GIS) Laboratory is equipped with several networked SUN 360 machines and a wide array of software.

#### MAP AND GEOGRAPHY LIBRARY

Within the University's outstanding library is the Map and Geography Library, which has an excellent collection of geography monographs, periodicals, and more than 500,000 maps and aerial photographs.

#### ADMISSION

Students applying for admission to the master's program are expected to have a strong undergraduate background in geography and/or related disciplines. In addition to other Graduate College admission requirements, a grade-point average of at least 4.0 (A = 5.0) in the undergraduate major is required. Ph.D. candidates are generally expected to have at least a 4.5 average in previous graduate work.

#### MASTER OF ARTS AND MASTER OF SCIENCE

Successful candidates for the master's degree whose backgrounds are largely in physical geography are recommended for the master of science; others receive the master of arts. The Graduate College requirements for the master's degree apply.

#### DOCTOR OF PHILOSOPHY

Admission presupposes distinction in completing the master's program in geography at the University of Illinois at Urbana-Champaign or its equivalent. In the doctoral program, the student develops depth in the program chosen for specialization and further advances in research competence. Of the 16 units required beyond the master's degree, 4 units of study in allied disciplines and a minimum of 6 additional units in geography are required. A student must complete the course requirements as determined by an individually planned program, initiate and complete research projects, and qualify for candidacy by passing the preliminary examination. Although there is no departmental foreign language requirement, students may offer a foreign language as a research tool.

#### FINANCIAL AID

Fellowships, teaching and research assistantships, and waivers of tuition and some fees are available in the department. See the discussion on financial aid on page 174 for a description of the provisions of these awards.



## GEOLOGY

Head of the Department: R. James Kirkpatrick

Associate Head of the Department: W. Hilton Johnson

Correspondence and Information: Graduate Secretary, Department of Geology, University of Illinois at Urbana-Champaign, 245 Natural History Building, 1301 West Green Street, Urbana, IL 61801; (217) 333-3541

### GRADUATE FACULTY

Professors: D. E. Anderson, T. F. Anderson, C. M. Bethke, D. B. Blake, W. P. Chen, R. L. Hay, A. T. Hsui, W. H. Johnson, R. J. Kirkpatrick, C. J. Mann, A. S. Nieto, P. A. Sandberg

Associate Professors: S. P. Altaner, J. D. Bass, C. Y. Chen, S. Marshak

Assistant Professor: T. J. Clarke

### GRADUATE DEGREE PROGRAMS

The Department of Geology offers programs leading to the master of science in geology, the doctor of philosophy in geology, and the master of science in the teaching of earth science. Students have a wide variety of choices in their courses and research programs. Departmental research programs include many aspects of geology, geochemistry, and geophysics.

### ADMISSION

The admission requirements of the Graduate College apply. In addition, scores for the aptitude test of the Graduate Record Examination are required for admission to graduate work in geology, as well as completion of at least one year of study in college-level calculus, chemistry, and physics. For more information, write to the graduate secretary.

### MASTER OF SCIENCE

The M.S. program in geology consists of a thesis option and a nonthesis option. The thesis option requires completion of at least 8 units of graduate credit and an M.S. thesis. Credit includes 6 units of formal course work and no more than 2 units of M.S. thesis research. In all cases, at least 3 units of formal course credit must be taken within the geology department, and at least 3 units of formal course work must be completed at the 400 level. Before finishing the degree, each student must present a colloquium on the thesis research. The nonthesis option requires 9 units of credit, including at least 8 units of formal course work and 1 unit of research/independent study (Geology 493) requiring a written report. At least 3 units of the formal course work must be completed in the department, at least 3 units must be completed at the 400 level, and no more than 2 units of credit are allowed for 300-level courses required in any of the options of the curriculum in geology and geophysics at UIUC. This option is intended as a terminal degree for students preparing for professional work in environmental and engineering geology and applied geophysics. Students in both options must maintain a minimum grade-point average (GPA) of 4.0 (A = 5.0). If the GPA falls below this minimum after 3 or more units of graded course work, it must be raised to or above 4.0 after the completion of 3 additional units of graded course work and must be maintained at or above the minimum thereafter.

### MASTER OF SCIENCE IN THE TEACHING OF EARTH SCIENCE

Candidates must earn 8 units of graduate credit, including 4 units in geology, 2 units in other earth science areas, and 2 units in education. At least 3 units of formal course work must be at the 400 level. In addition, candidates must fulfill the requirements to be certified to teach at the secondary school level in Illinois. Contact the certification officer of the Council on Teacher Education (110 Education Building, 333-7195) for information pertaining to pursuing certification while enrolled in the graduate program. A student must maintain a minimum GPA of 4.0 (A = 5.0). If the GPA falls below this minimum after 3 or more units of graded course work, it must be raised to or above 4.0 after the completion of 3 additional units of graded course work and must be maintained at or above the minimum thereafter.

### DOCTOR OF PHILOSOPHY

The Ph.D. degree requires at least 24 units of graduate credit and completion of a Ph.D. thesis. At least 10 of these units must be formal course work, with the remainder as independent study and thesis research. A minimum of 8 units must be Ph.D. thesis research. At least half of the formal course work must be at the 400 level, and at least 2 courses must be taken in the geology department, and at least 2 courses (totaling at least 1½ units) must be taken outside the geology department. Credit for M.S. thesis research is limited to a maximum of 2 units. Incoming students with an M.S. degree are usually allowed

8 units of credit towards the Ph.D. (6 units of formal courses and 2 units of M.S. thesis research). There is no foreign language requirement. A student must maintain a minimum GPA of 4.0 (A = 5.0). If the GPA falls below this minimum after 3 or more units of graded course work, it must be raised to or above 4.0 after the completion of 3 additional units of graded course work and must be maintained at or above the minimum thereafter. Ph.D. students are evaluated by three oral examinations: a qualifying exam, a preliminary exam, and a final exam. The qualifying exam tests breadth of knowledge as well as the ability to define and defend a research proposal in a specialized field at an early stage of graduate study. The preliminary exam tests advanced knowledge in a specialized field and the ability to define and defend a Ph.D. dissertation proposal. The final exam tests the ability to complete and defend Ph.D. dissertation research.

### FINANCIAL AID

Candidates for graduate degrees are usually supported through fellowships, research assistantships, teaching assistantships, waivers of tuition and service fees, and work-study programs. Fellowships and assistantships include tuition and fee waivers. Awards for financial assistance are based principally on a candidate's academic record, statement of plans, and letters of reference. Some part-time assistants are employed by the State Geological Survey located on campus.

## GERMANIC LANGUAGES AND LITERATURES

Head of the Department: James M. McGlathery

Correspondence and Information: Head, Department of Germanic Languages and Literatures, University of Illinois at Urbana-Champaign, 3072 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801

### GRADUATE FACULTY

Professors: E. H. Antonsen, U. H. Gerlach, H. G. Haile, M. Kalinke, H. Knust, R. Lörbe, J. W. Marchand, J. M. McGlathery, K.-H. Schoepes

Associate Professors: J. Lalande, M. Wade, R. Wright

Assistant Professors: D. Chirita, A. E. Wright

### GRADUATE DEGREE PROGRAMS

The Department of Germanic Languages and Literatures offers graduate programs leading to the degrees of master of arts, master of arts in the teaching of German, and doctor of philosophy.

### MASTER OF ARTS

Applicants should have completed undergraduate studies similar to the concentration in German at the University of Illinois at Urbana-Champaign, have a grade-point average of 4.0 (A = 5.0) for the last 60 hours of undergraduate course work plus any graduate work completed, and be able to follow lectures in the German language. Acquaintance with German history and culture in their relation to the general European background is desirable. Admission to the program is on a competitive basis.

Candidates for the master of arts in Germanic languages and literatures may emphasize either German or Scandinavian literature or linguistics. All candidates must take course work in both literature and linguistics.

The master's degree requires 8 units of graduate work, although deficiencies in undergraduate preparation may necessitate more than 8 units to meet the requirements. Residence and other requirements of the Graduate College must be met. Candidates for the M.A. degree must demonstrate proficiency in reading one language other than English and German (usually French). Required courses (or approved equivalents) are German 365 and 366 (Structure of the German Language I, II), German 311 and 312 (German Literature 750-1770), German 415 (Middle High German) or Scandinavian 405 (Old Norse-Icelandic), German 420 (History of the German Language), German 410 (Introduction to Graduate Study), and two graduate literature courses at the 400 level. Electives may be chosen from within or from outside the department with the approval of the graduate adviser. The degree is awarded upon the successful completion of a three-hour written and a one-hour oral comprehensive examination, or upon successful defense of a thesis. More detailed information may be obtained from the departmental office.

### MASTER OF ARTS IN THE TEACHING OF GERMAN

Applicants must meet the same admission standards as those for the master of arts in German. Candidates for the M.A.T. degree must earn 5 units in German emphasizing either language and linguistics or literature and culture, 2 units in approved courses in educational policy studies, 1 unit of studies in educational foundations, and 2

courses in foreign language education. Candidates must also complete all undergraduate requirements for a teaching certificate, although no graduate credit is given for undergraduate courses. In some cases, with proper advance approval, graduate courses may be applied to the teaching certification requirements. Contact the certification officer of the Council on Teacher Education (110 Education Building, 333-7195) for information pertaining to pursuing certification while enrolled in the graduate program. Residence requirements are those of the Graduate College. The degree is awarded after the successful completion of a three-hour written and a one-hour oral examination. More detailed information is available from the departmental office.

#### DOCTOR OF PHILOSOPHY

Applicants must meet the admission standards outlined for the master of arts and, in addition, hold a master of arts in German (or equivalent) with a graduate grade-point average of 4.5 (A = 5.0). Admission to the program is on a competitive basis.

Candidates for the Ph.D. in German may specialize in older German literature, modern German literature, Germanic linguistics, German and Scandinavian literature, or German language pedagogy.

Students working toward the Ph.D. degree must have completed all requirements for the A.M. degree given above and must complete an additional 8 units of course work approved by the graduate adviser. Residence requirements are those of the Graduate College. Candidates must demonstrate proficiency in reading two languages other than English and German that are considered useful in their area of specialization.

After passing the written preliminary examinations (three three-hour comprehensive examinations), the student is admitted to the oral examination, the successful completion of which admits the student to candidacy for the Ph.D. degree. The candidate must then complete 8 units of thesis research and successfully defend the thesis in an oral examination. All candidates for the Ph.D. degree must have taught the equivalent of three one-semester courses on the college level (i.e., teaching one-half time for one academic year) before being admitted to the final oral examination (thesis defense). An additional option in second language acquisition in teacher education (SLATE) is available to candidates with an A.M. degree (or equivalent) in German and at least one year of experience in teaching German as a second language. Candidates selecting this option are required to complete courses in psycholinguistics, education, and language teaching methodology in addition to advanced study in German language and culture. Also required are 4 units in research methodology selected from one of several options including linguistics, psychology, computer science, or statistics. More detailed information is available from the departmental office.

#### RESEARCH INTERESTS

The department faculty includes nationally and internationally recognized scholars in all areas of research within the field. These areas include older and modern German literature, medieval studies, Scandinavian literature, German film, computerized instruction, historical and synchronic Germanic linguistics, and German language pedagogy. The University Library has one of the nation's outstanding collections of works pertaining to study and research in German and other literatures of all periods and in Germanic and general linguistics.

#### FINANCIAL AID

Teaching assistantships are awarded on a competitive basis to promising candidates with strong academic records. Preference may be given to students who have lived in a German-speaking country or have had some teaching experience. Teaching assistantships are usually awarded at one-half time for the academic year. Each year the department may nominate one or more outstanding students for a University fellowship. A limited number of tuition and service fee waivers may also be available. Full details on amounts of financial aid and time limitations for eligibility may be obtained from the departmental office.

For continuing graduate students, the awarding of financial aid of all types is contingent upon the maintenance of satisfactory progress toward a degree.

## GOVERNMENT AND PUBLIC AFFAIRS

*Director of the Institute:* Robert F. Rich

*Correspondence and Information:* Institute of Government and Public Affairs, University of Illinois, 1007 West Nevada Street, Urbana, IL 61801

#### GRADUATE FACULTY

*Professors:* D. Chicoine, J. Cihfield, R. Felner, J. F. Gierzt, G. Gross, J. Kuklinski, P. F. Nardulli, P. Quirk, R. F. Rich, B. Sala, T. Ulen, J. Ward

The Institute of Government and Public Affairs conducts policy-oriented research and public service. Primary emphasis is on research into public policy issues at the state and local levels, especially as these relate to Illinois. Public service activities arise from and contribute to institute research through contact with public officials and the identification of research problems. Each year the institute has several affiliate faculty members from related UI departments, as well as from other universities. The institute offers no courses, but its faculty members teach in various departments and guide student research. Results of institute research are published in internal newsletters and monographs as well as external journals and books.

## HEALTH AND SAFETY STUDIES

See Community Health, page 193.

## HISTORY

*Chair of the Department:* Charles C. Stewart

*Director of Graduate Studies:* Peter A. Fritzsche

*Correspondence and Information:* Department of History, University of Illinois at Urbana-Champaign, 309 Gregory Hall, 810 South Wright Street, Urbana, IL 61801; (217) 333-4195

#### GRADUATE FACULTY

*Professors:* J. D. Anderson, W. L. Arnstein, J. R. Barrett, P. P. Bernard, J. Buckler, R. W. Burkhardt, Jr., O. V. Burton, S. P. Cohen, D. E. Crumney, L. E. Eastman, P. B. Ebrey, T. R. Havens, K. A. Hitchens, D. C. Jaher, R. C. Jennings, R. W. Johannsen, R. A. Jones, B. K. Kling, F. P. Koenig, J. L. Love, J. A. Lynn, R. M. McColley, J. P. McKay, R. E. Mitchell, N. G. Parker, G. G. Porton, D. E. Queller, P. W. Schroeder, C. C. Stewart, R. P. Tobey, J. E. K. Walker, W. C. Widenor

*Associate Professors:* W. Chow, P. Fritzsche, J. Haboush, C. M. Hibbard, L. Hoddeson, N. Jacobsen, M. H. Leff, H. Liebersohn, D. Littlefield, M. McLaughlin, E. M. Melhado, S. Michel, D. Prochaska, J. H. Pruett, B. Üroff

*Assistant Professors:* K. Cuno, K. Doak, L. Reagan, D. Schneider, A. Verner, M. West

#### GRADUATE DEGREE PROGRAMS

The Department of History offers graduate courses leading to the master of arts and the doctor of philosophy degrees, complete details of which may be found in the department's brochure on graduate study in history. The master of arts degree may be either the first stage in preparation for the degree of doctor of philosophy or a terminal degree.

Approved areas of specialization are ancient Greece; ancient Rome; Middle Ages; Renaissance and Reformation; Europe and dependencies, 1648-1815; Europe and dependencies since 1789; Russia; Eastern or Southeastern Europe; British Isles to 1688; England and the Empire-Commonwealth since 1688; Near East and Middle East; Africa; China; Japan; South Asia; Colonial North America and Early United States to 1830; United States since 1815; Latin America; history of science; international relations since 1871; military history; African-American history; history of medicine; and history of women. Topical fields may also be arranged with the consent of the graduate advisers.

#### ADMISSION

For the A.M. program: a grade-point average of 4.25 (A = 5.0) during the last two years of undergraduate work, a reasonable amount of course work in history, and Graduate Record Examination scores (verbal and quantitative mandatory; history optional). For the Ph.D. program: a grade-point average of 4.5 for previous graduate-level work and Graduate Record Examination scores (as above). Undergraduate language preparation may be weighted heavily, depending upon the field of specialization.

#### MASTER OF ARTS

Candidates are expected to take at least 2 units in each of two of the fields of specialization listed above. A minimum of 8 units is required,

4 of which must be at the 400 level (excluding History 498). At least one research seminar with a grade of B or better must be included. Students may elect to write a master's thesis, but the thesis does not replace the seminar requirement and may carry no more than 2 units of credit. A candidate must demonstrate ability to read one foreign language related to his or her field of interest as approved by the graduate advisers.

#### DOCTOR OF PHILOSOPHY

A candidate for the Ph.D. degree needs a minimum of 24 units (including those offered for the A.M. degree), of which 8 may be for thesis research (History 499). For students who enter the graduate program without an A.M. in history, these must include three research seminars, History 496, either History 490 or History 491, and three additional courses at the 400 level (not including History 499). For students entering the graduate program with an A.M. in history, these must include two research seminars, History 496, either History 490 or History 491, and two additional courses at the 400 level (not including History 499). History 498, while required for students serving as teaching assistants, cannot be counted toward fulfilling these requirements. A candidate must demonstrate ability to read two foreign languages related to his or her field of interest, as approved by the graduate advisers. In certain circumstances, a student in American or British history may substitute courses in quantitative skills for the second language. For the preliminary examination, the candidate customarily offers three fields in history, of which one must involve a period of time before 1815. At least two geographical areas must also be represented by the fields offered for the examination. One of the three fields, however, may be in a specialization outside the Department of History or may be a field of history specially designed by the candidate in consultation with the major adviser (e.g., United States intellectual or European economic history). To fulfill the minimum requirement of 24 units, 4 units in disciplines other than history may be applied.

#### CONCENTRATION IN THE AREA OF AMERICAN CIVILIZATION

The Department of History administers an interdisciplinary doctoral program in American civilization. Students are required to take, among their 16 units before preliminary examinations, at least 4 units in American history, 3 in literary studies, and 3 in either the social sciences or the history of art. Course work may be arranged to allow specialization in such interdisciplinary fields as popular culture, urban studies, regional studies, folklore, film, women's studies, and minority cultures. Students may earn a master's degree in American civilization by taking 8 units, including 3 in history, 2 in literature, and 2 in either the fine arts or the social sciences. At least 4 of these units must be at the 400 level, and one should represent an interdisciplinary research project. Students apply for admission and financial aid through the Department of History.

#### CONCENTRATION IN THE AREA OF HISTORY, PHILOSOPHY, AND SOCIOLOGY OF SCIENCE

The Departments of History, Philosophy, and Sociology jointly offer—for work toward the A.M. and the Ph.D. degrees—a special area of concentration in history, philosophy, and sociology of science. Students interested in this program enroll in and receive their degrees from either the history, the philosophy, or the sociology department, depending on the focus of their interests. Undergraduate background requirements for admission to the program are flexible; although an undergraduate concentration in either history, philosophy, or sociology is usually desirable, so also is a strong background in science, and students with such backgrounds, but only weak training in history, philosophy, or sociology will be considered for admission. The admission procedure is the same as that stated for each of the three departments, as is the information to be submitted with each application for admission. For students in this special concentration, the normal departmental requirements for the A.M. and Ph.D. degrees are modified. Further information is available from the Department of History.

#### FINANCIAL AID

Financial aid is almost always awarded on an academic-year basis. Applications are due in the department office by February 1. All fellowships and assistantships involve a stipend plus tuition and service fee waiver.

#### FELLOWSHIPS

Available fellowships include University fellowships for entering A.M. students and for Ph.D. students at the dissertation-writing stage; Babcock, Crawford, and Krueger Fellowships for dissertation-level students; Foreign Language and Area Studies (NDEA VI) Fellowships

for those who have special interests in foreign area studies; and Graduate College fellowships for beginning students who have disadvantaged backgrounds.

#### TEACHING ASSISTANTSHIPS

Half-time teaching assistantships are the department's primary form of financial aid to graduate students admitted to the Ph.D. program. Students who progress satisfactorily toward their degrees and demonstrate effective teaching will have their teaching assistantships renewed for a second and, in some cases, a third year.

#### TUITION AND SERVICE FEE WAIVERS

A limited number of tuition and service fee waivers are available each year both to entering and continuing students at the A.M. and Ph.D. levels.

## HORTICULTURE

Head of the Department: A.G. Endress

Correspondence and Information: Department of Horticulture, University of Illinois at Urbana-Champaign, 1005 Plant Sciences Laboratory, 1201 South Dornier Drive, Urbana, IL 61801; (217) 333-0350

#### GRADUATE FACULTY

Professors: M. C. Carboneau, J. O. Dawson, A. G. Endress, W. L. George, G. E. Gerth, F. A. Giles, J. A. Juvik, M. M. Meyer, C. A. Rebeiz, K. R. Robertson, D. S. Seigler, R. M. Skirvin, W. E. Splittstoesser, L. A. Spomer, D. J. Williams  
Associate Professors: T. W. Fermanian, G. J. Kling, S. S. Korban, J. B. Masianus, S. M. Ries, M. A. L. Smith, J. M. Swiader  
Assistant Professors: M. M. Kuschad, G. Mitiku, W. C. Sullivan, K. A. Williams

#### GRADUATE DEGREE PROGRAMS

The Department of Horticulture offers graduate work leading to the master of science and doctor of philosophy degrees. Students may specialize in any phase of horticulture (fruit and vegetable crops, ornamentals, and turf), including breeding and genetics, culture and production, weeds and their control, environmental physiology, biochemistry, developmental anatomy and morphology, tissue culture, marketing, or plant-people interaction. A well-balanced program may include courses in crops and soils, plant biology, food science, genetics, statistics, entomology, plant pathology, chemistry, biochemistry, agricultural economics, and agricultural communications.

#### ADMISSION

Applicants should have a bachelor's degree in horticulture or equivalent preparation in the plant sciences and must meet the Graduate College requirements for admission.

#### MASTER OF SCIENCE

A candidate must complete a minimum of 8 units of graduate study with a grade-point average of at least 4.0 ( $A = 5.0$ ); at least 4 units must be in the 400 series of courses. Thesis and nonthesis options are available; however, the thesis option is preferred and is required of all research assistants. Any request for the nonthesis option is considered on its individual merit by the graduate committee of the department.

#### DOCTOR OF PHILOSOPHY

The candidate must complete a minimum of 8 units of course work beyond the master's degree and pass a preliminary examination. The candidate must also complete 8 units of thesis research, submit an acceptable thesis, and defend it in an oral examination. Competence in a foreign language may be required, depending on the area of specialization and recommendations of the student's advisory committee.

#### SPECIALIZATION IN GENETICS

The Department of Horticulture offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### SPECIALIZATION IN NATURAL RESOURCE ECOLOGY AND CONSERVATION BIOLOGY

The Department of Horticulture offers a specialization in natural resource ecology and conservation biology. This Ph.D. program is flexible and provides students with proficiency in several core content areas. The program of study requires all students to satisfy require-



ments in specified core content areas before developing an individual specialization. Interested students should direct inquiries and applications to the department.

#### **SPECIALIZATION IN PLANT PHYSIOLOGY AND MOLECULAR BIOLOGY**

The Department of Horticulture also participates in the multidisciplinary, interdisciplinary program in plant physiology and molecular biology. The program is flexible and provides the student with proficiency in several areas of plant physiology and molecular biology. Interested students should direct inquiries and applications to the program coordinator in the School of Life Sciences.

#### **FINANCIAL AID**

Various support monies available on a competitive basis include University fellowships, College of Agriculture fellowships, research and teaching assistantships, and waivers of tuition and service fees.

### **HUMAN RESOURCES AND FAMILY STUDIES**

*Director of the School:* Donald K. Layman

*Correspondence and Information:* Contact the Graduate Programs Coordinators in the Divisions of Consumer Sciences, Human Development and Family Studies, or Foods and Nutrition within the School of Human Resources and Family Studies, University of Illinois at Urbana-Champaign, 274 Bevier Hall, 905 South Goodwin Avenue, Urbana, IL 61801

#### **GRADUATE FACULTY**

*Professors:* A. H. Beller, K. Cloud, B. P. Klein, R. W. Larson, D. K. Layman, M. Raheel, S. B. Salamon

*Associate Professors:* M. S. Brewer, B. J. Cude, S. U. Douglas, N. J. Fisher, V. R. Fitzsimmons, H. B. Lakner, M. A. Morgansky, B. J. Peterson, J. H. Pleck, S. M. Potter, R. J. Reber, S. J. Schmidt, K. W. Singletary, C. M. Todd

*Assistant Professors:* K. M. Chapman, N. R. Crick, S. M. Donovan, A. T. Ebata, K. F. Folk, T. A. Garrow, J. S. Gray, H. J. Hunts, J. D. Jovanovic, L. F. Kramer, B. A. McBride, R. P. Moreno, N. S. Mounts, M. A. Perry-Jenkins

#### **GRADUATE DEGREE PROGRAMS**

The School of Human Resources and Family Studies offers graduate work leading to the master of science, master of arts, and doctor of philosophy degrees. Degree programs are available in family and consumption economics, foods and nutrition, food service systems, general human resources and family studies, human development and family studies, and textiles and apparel. Requirements for these are listed under the individual programs.

For the master's degree in human resources and family studies, all candidates must complete a minimum of 8 units (9 if a thesis is not submitted), of which at least 4 must be in human resources and family studies. Four of the total units, including at least 2 in human resources and family studies, must be in 400-level courses.

The minimum grade-point average for admission is 4.0 (A = 5.0). Additional requirements are listed under the individual programs.

#### **INDIVIDUAL DEGREE PROGRAMS**

##### **FAMILY AND CONSUMPTION ECONOMICS**

The family and consumption economics programs are interdisciplinary. Admission requirements include one course in principles of economics, one course in applied statistics, one course in calculus, and the Graduate Record Exam. International applicants must submit a score of at least 580 on the Test of English as a Foreign Language. Major areas of faculty research include satisfaction related to levels and standards of living and quality of living for families and individuals, management of family resources, and human capital with emphasis on the education and employment of women.

*Master of Science.* The M.S. program requires 3 units from family and consumption economics, 1 unit each of macro- and microeconomic theory at the 400 level, and 1 unit of research methods.

*Doctor of Philosophy.* Requirements include (1) 5 units from family and consumption economics; 1 unit each of macro- and microeconomic theory with a grade of at least a B in each; 2 to 4 units at the 400 level from economics or economics and agricultural economics; 2 units of statistics; 1 unit of research methods; 8 units of thesis, Family and Consumption Economics 499; (2) two of the three stages completed in residence; and (3) one written examination in family economics and one in consumption economics.

##### **FOODS AND NUTRITION**

Major areas of faculty research interest include human nutrition through the life cycle, nutritional aspects of exercise, nutrient metabolism, nutrition and disease interactions, nutrient composition of foods, food service systems, sensory and instrumental evaluation of food quality, food biochemistry, and food safety.

*Admission:* For admission to the M.S. program, candidates must have training in organic and inorganic chemistry, calculus, microbiology, and physiology, as well as undergraduate courses in both foods and nutrition. In the foods and nutrition emphasis, a course in quantitative analytical chemistry is an additional requirement for entrance. For the concentration in food service systems, introductory courses in accounting, business administration, and economics are required. Deficiencies must be removed during the first year of graduate study. GRE scores are required of all applicants, and international applicants must submit a score of at least 580 on the Test of English as a Foreign Language.

*Master of Science.* The M.S. degree has two areas of emphasis: foods and nutrition, and food service systems. For both emphases, a minimum of 8 units, of which at least 4 must be in foods and nutrition, must be completed. Four of the total units, including at least 2 in foods and nutrition, must be in 400-level courses. Thesis topics may be in foods, nutrition, or food service systems. Specific course work required for each area is given below. Additional courses may be taken in foods and nutrition or related areas. Graduate-level courses required in the foods and nutrition emphasis include biochemistry with laboratory, biochemical nutrition, experimental study of foods, and seminars in foods and nutrition. Required foods and nutrition graduate-level courses in the food service systems emphasis include the experimental study of food; quantity food purchasing, production, management and service; and food service systems. In addition, personnel management, business organization, and marketing courses at the graduate level are required.

For all emphases each master's degree candidate must complete a thesis and have a final oral examination and thesis defense.

*Doctor of Philosophy.* A total of 24 units of graduate work must be completed; at least 8 and no more than 12 units of thesis research may be applied to the requirements. If a candidate has a master's degree in foods and nutrition or a related area, a minimum of 16 units, including up to 12 units of thesis research, must be completed. Required courses include at least 3 units of foods and nutrition, of which at least 2 must be at the 400 level. Students must take seminars in foods, nutrition, or food service systems. Other courses are selected, in consultation with the adviser, on the basis of the student's background and interests. Courses may be chosen from foods and nutrition, food science, biological and chemical sciences, statistics, or other related areas. Thesis topics may be in foods or nutrition.

A written Ph.D. preliminary examination should be completed by the end of the second year in the doctoral program for those entering with an M.S. degree and by the end of the third year for those with a B.S. degree. A final Ph.D. thesis defense is required upon completion of the dissertation.

*Financial Aid:* Financial aid is awarded to graduate students on a competitive basis, with teaching and research assistantships, fellowships, and tuition and fee waivers being available.

##### **GENERAL HUMAN RESOURCES AND FAMILY STUDIES**

The master's program in general human resources and family studies allows the candidate to obtain greater breadth than is possible in one of the more specialized areas. Candidates are required to take a minimum of 4 units from prescribed courses in three of the five specialized fields in human resources and family studies.

##### **HOME ECONOMICS EDUCATION**

The M.S. program in home economics education requires that candidates hold a valid teaching certificate for home economics or have successfully completed Illinois certification requirements and earn at least 8 units of graduate credit, of which 4 units are in human resources and family studies. Three of the 8 units must be at the 400 level, with at least 1 of these in human resources and family studies. Four 1/2-unit courses are specified in educational psychology and educational policy studies. At least 2 units must be in home economics education. Advisers for students in this program are in the Division of Home Economics Education, College of Education. A thesis is recommended.

## HUMAN DEVELOPMENT AND FAMILY STUDIES

The degree programs are interdisciplinary, focusing on individual development across the life span and on the family context in which development occurs. Major areas of faculty research in human development include the development and socialization of young children and adolescents. In family studies, emphases include the internal dynamics of family systems, the family in cross-cultural settings, and the relationship between the family and other social institutions like schools and workplaces.

**Admission.** Admission into all programs is based on a combination of criteria, including undergraduate grade-point average, Graduate Record Examination (GRE) scores, recommendations, and the personal statement. All applicants are required to take the GRE and have previous course work in an area of the behavioral or social sciences. A student without prior course work in human development and family studies, or advanced-level statistics may be admitted to a graduate program, but will be required to make up deficiencies during the first year of the program.

**Master of Science.** For the M.S. degree, the student may specialize in the study of either the family or human development. The program is designed to prepare students as practitioners in education and social service agencies; or as the first step toward the doctor of philosophy degree. Students must complete a minimum of 8 units, including 2 units of thesis, or 9 units if a thesis is not submitted; 4 of the total units must include HDFs 414 and 419 and two other 400-level courses.

**Master of Science and Master of Social Work.** A dual master's degree program offered in conjunction with the School of Social Work is designed to prepare students for careers aimed at providing services to couples and families within a human service agency, or as independent practitioners, teachers, or clinical researchers. For admission to the M.S./M.S.W. dual degree program, students must apply to both the Division of Human Development and Family Studies and the School of Social Work and must meet the standards for admission and be approved by both. Completion of the program may meet the requirements for associate membership in the American Association for Marriage and Family Therapy. Students in the HDFs phase of the program take course work in family studies, human development, and family systems to fulfill the requirements for the M.S. They then fulfill requirements for the M.S.W., which includes an intensive fieldwork internship. Students who hold a B.S.W. degree must complete a minimum of 20 units of course work to satisfy requirements for the M.S.W. and M.S. degrees. Students with baccalaureate degrees in other disciplines may need to complete up to 22 units if they lack certain social work credits as undergraduates.

**Doctor of Philosophy.** The doctoral program is designed to prepare students to be researchers, educators, policy developers, or professionals that develop, evaluate, and implement intervention and prevention programs aimed at families and children. Requirements for the Ph.D. include 16 units beyond the M.S. or M.A. degree, completion of the written qualifying examination, defense of the written dissertation proposal, and a final thesis defense upon completion of the dissertation. The student selects human development or family studies as the major area of concentration; the other area serves as a minor concentration. Specialty concentrations in adolescence and gender in families are options for students, as well as an applied Ph.D. emphasis which includes courses in program development and evaluation, social policy, and internship experiences in more applied research or intervention settings. At least 2 units in advanced research methodology and/or statistics, HDFs 420, HDFs 421, and 8 units of thesis are required.

## TEXTILES AND APPAREL

For the M.S. or M.A. degree in textiles and apparel, students may specialize in the study of textile and apparel marketing, the textile industry, economics, international studies, the social psychology of dress, or textile science. Major areas of research include global marketing and international trade, direct marketing, consumer behavior, consumer values, labor and technology in the textile/apparel industries, cognitive and interpersonal factors influencing apparel selection and perceptions of dress, performance evaluation of consumer textile products, protective clothing, and safety aspects of textiles.

**Master of Science or Master of Arts.** Admission requirements include a background in textiles, apparel, associated courses, and the Graduate Record Exam. International applicants must submit a score of at least 580 on the Test of English as a Foreign Language. Deficiencies should

be made up during the first year of graduate study. The graduate program must include a minimum of 8 units, or 9 units if a thesis is not submitted; at least 4 of the total units must be in textiles and apparel and 4 at the 400 level. Graduate-level statistics and research methods courses also are required. Additional courses are selected in accordance with the special interests of individual students.

**Financial Aid.** University fellowships and fellowships in the College of Agriculture and the School of Human Resources and Family Studies, tuition and service fee waivers, research assistantships, and teaching assistantships are available in several programs.

## JOURNALISM

**Head of the Department:** Steven Helle

**Correspondence and Information:** Department of Journalism, University of Illinois at Urbana-Champaign, 119 Gregory Hall, 810 South Wright Street, Urbana, IL 61801; (217) 333-0709

## GRADUATE FACULTY

**Professors:** C. Christians, T. Littlewood

**Associate Professors:** W. Berry, S. Helle, J. Landay, L. Liebovich, R. Reid, J. Thomas

## GRADUATE DEGREE PROGRAMS

The Department of Journalism offers graduate work leading to the master of science degree. The department does not offer a Ph.D. degree. For the program leading to the doctor of philosophy in communications, see page 193.

## ADMISSION

Applicants must have a bachelor's degree from an accredited U.S. institution or one of recognized standing abroad. A grade-point average of 4.0 (A = 5.0) is the minimum requirement for admission to the Graduate College, with exceptions by petition only. Because the master's program has an enrollment ceiling, some applicants with grade-point averages of 4.0 or higher may not be admitted. It is imperative that all applicants supply writing samples, and applicants for the broadcast sequence should supply an audio cassette tape of themselves reading a news story. Letters of recommendation and the Graduate Record Examination are required. If possible, an interview with the head of the department or director of graduate studies is also helpful.

## MASTER OF SCIENCE

The following are requirements for the degree: (1) a major of 4 units or 3 units and 1 additional unit approved by the department; candidates without undergraduate work in journalism or equivalent professional experience are required to complete 1 unit of news editing (either news-editorial or broadcast news editing), 2 units in news writing, and 1 unit of either graphics and photojournalism or electronic news production; (2) a thesis, or preparation of an in-depth journalistic investigation for publication or broadcast, for 1 unit; (3) a minimum of 3 units in courses at the 400 level, at least 2 of which must be in journalism; (4) a minimum total of 8 units with a grade-point average not lower than 3.875.

## FINANCIAL AID

See the description of the University fellowship and tuition and service fee waiver program in the introductory section of this catalog. Assistantships (teaching or research) are awarded on a quarter-time to half-time basis and carry a waiver of tuition and some fees. To be considered for financial aid, applications, including transcripts and three letters of recommendation, must be received no later than February 15. Students with journalism degrees or professional experience may become candidates for part-time positions in other units of the University that require journalistic skills in writing, editing, and/or photography and graphics.

## KINESIOLOGY

**Head of the Department:** James E. Misner

**Correspondence and Information:** Associate Department Head for Academic Affairs, Department of Kinesiology, University of Illinois at Urbana-Champaign, 113 Freer Hall, 906 South Goodwin Avenue, Urbana, IL 61801; (217) 333-1083

## GRADUATE FACULTY

**Professors:** R. A. Boyleau, S. L. Greendorfer, E. McAuley, J. E. Misner, G.

C. Roberts, M. H. Slaughter, R. G. Wright

**Associate Professors:** L. G. Carlton, G. Riccio, S. Silverman, S. Slowikowski

Assistant Professors: G. W. Bell, K. Graber, S. Petruzzello, N. C. Rich, K. Rosengren, R. Stillman, J. Woods

#### GRADUATE DEGREE PROGRAMS

The Department of Kinesiology offers graduate work leading to the degrees of master of science and doctor of philosophy. Major areas of specialization at both the master's degree and doctoral degree level include (1) the biodynamics of physical activity—the study of exercise physiology, work output, energy, and movement efficiency undertaken to better understand the nature of exercise stress and fitness throughout the human life span; (2) the social science of physical activity—the study of the antecedents and consequences of involvement in physical activity and sport, as well as the impact that physical activity and sport have upon individuals, society, and culture; (3) coordination, control, and skill—the study of biomechanics and the mechanisms and processes involved in the coordination, control, and skill of human physical activity; (4) pedagogical kinesiology—the study of the organizational and instructional concepts essential for the efficient and effective conduct of physical activity programs, particularly those that relate to physical education and sport contexts. Areas of specialization offered at the master's level only are in physical activity management and therapeutic kinesiology. Physical activity management is the study of administrative and managerial issues in applied physical activity contexts, corporate fitness, and wellness. The therapeutic area studies movement as a vehicle for health and wellness, particularly the prevention and rehabilitation of injury or movement function. The athletic training program is an NATA-accredited graduate athletic training educational program.

#### MASTER OF SCIENCE

Admission to this degree program requires a baccalaureate degree from an accredited institution of higher education, a minimum grade-point average of 4.0 (A = 5.0) for the last 60 hours of undergraduate work and any graduate work completed, a minimal total score of 1,500 on the aptitude portions of the Graduate Record Examination, and three letters of recommendation. Candidates for this degree must complete a minimum of 8 units, 4 of which must be completed in kinesiology (excluding Kinesiology 499). Each student must identify a major area of study from the following list: biodynamics; coordination, control, and skill; social science of physical activity; therapeutic kinesiology; pedagogical kinesiology; and physical activity management. At least 2 units must come from the identified major area of study, and 1 unit must be taken from one additional area of study in the department. Of the total units, 3 must be earned in 400-level courses. Of the 4 units in kinesiology, Kinesiology 495 (Research Methods in Kinesiology) or an equivalent graduate-level research methods course appropriate to a student's program of study is required. No more than 2 units of graduate credit from another institution can be transferred. It is possible for a full-time student to complete this degree program in one academic year plus one summer session. A student may choose to write an acceptable thesis for 2 units of credit (i.e., Kinesiology 499) or select a nonthesis option by substituting 2 units of credit (i.e., approved credit that includes at least 1 unit of Kinesiology 493 [Independent Study]).

#### DOCTOR OF PHILOSOPHY

Admission to this degree program requires a master's degree from an accredited institution of higher education, completion of a thesis or equivalent research experience, a minimum grade-point average of 4.5 (A = 5.0) for all graduate work, a minimal total score of 1,800 on aptitude portions of the Graduate Record Examination, and three letters of recommendation. Candidates must complete 16 units beyond the master's degree, including 2 units in other disciplines and 8 units of thesis research. Each student must choose a major area of study from the following: biodynamics; coordination, control, and skill; pedagogical kinesiology; or the social science of physical activity. Ph.D. candidates are required to demonstrate competence in research methodology appropriate to their area of study. They must also successfully complete the preliminary and final doctoral examinations.

#### RESEARCH FACILITIES

In support of its graduate programs and research efforts, the Department of Kinesiology maintains the Physical Fitness Research Laboratory and several research laboratory facilities in biomechanics, motor control, and sport psychology.

#### FINANCIAL AID

A number of teaching assistantships are available in the department's instructional programs. A limited number of research assistantships

are available to support the departmental research laboratories. Assistantships usually provide a stipend for services performed, as well as a tuition and partial fee waiver.

## LABOR AND INDUSTRIAL RELATIONS

Director of the Institute: P. Feuille

Correspondence and Information: Staff Associate, Institute of Labor and Industrial Relations, University of Illinois at Urbana-Champaign, 504 East Armory Avenue, Champaign, IL 61820; (217) 333-1480

#### GRADUATE FACULTY

Professors: F. D. Blau, F. Drasgow, G. Ferris, P. Feuille, M. Finkin, W. Hendricks, C. Hullin, L. Kahn, G. Oldham, R. Peters, S. Rosen, K. Taira, H. Triandis

Associate Professors: P. Carnevale, H. Elkins, J. Lawler, M. LeRoy, D. Whitford

Assistant Professors: J. Martocchio, E. Perry, D. Schneider

Emeritus Professors: W. Adelman, M. Derber, W. Form, W. Franke, B. Karsh, M. Rothbaum, M. Wagner, E. Wolfe

#### GRADUATE DEGREE PROGRAMS

The Institute of Labor and Industrial Relations (ILIR) offers graduate work leading to the master of arts and doctor of philosophy degrees. Students must meet the general admission requirements of the Graduate College, as well as the specific requirements of the institute.

Graduate study at the institute is based on a multidisciplinary approach to industrial relations problems and a flexible curriculum. To achieve this, the institute has joint faculty appointments and course listings with economics, history, psychology, sociology, and business administration; and joint course listings with law, political science, vocational education, and social work.

#### MASTER OF ARTS

The master's program can lead to a professional, terminal A.M. degree, or it can prepare students to continue their graduate study toward a Ph.D. degree or doctoral degrees in law and other professional areas. The fields of concentration are unions, management, and labor relations policy; human resource management and organizational behavior; and labor markets and employment.

The institute offers a number of program options for the A.M. degree. All options require a minimum of 10 units of work and usually take three semesters to complete. All of the master's degree programs have core requirements in industrial relations systems, quantitative methods, and research methods.

Admission to the master's program is based on an applicant's undergraduate record, letters of reference, Graduate Record Examination scores, and statement of interest and goals. Usually, the minimum requirements for admission are a course in statistics and an average grade of B in the last 60 hours of undergraduate work. A deficiency in statistics may be made up by taking the required course without graduate credit during the first semester of graduate study.

#### JOINT J.D./A.M.

The joint degree program with the College of Law leads to the J.D. and the A.M. degrees in labor and industrial relations in three-and-one-half years. Students must apply to both the College of Law and the Institute of Labor and Industrial Relations and must be accepted by both units.

#### DOCTOR OF PHILOSOPHY

The Ph.D. program in labor and industrial relations is an interdisciplinary research degree. An individual program is built around the student's area of specialization. It includes industrial relations theory, research methodology, and course work both in a major social science discipline and in other professional and disciplinary subjects relevant to the interdisciplinary area of specialization. Examples of areas of specialization include government employer-employee relationships; labor in politics; economic effects of collective bargaining; discrimination in employment; wage policy issues in economic development; motivation, morale, and job satisfaction; international comparative industrial relations systems; behavior in union and management organizations; interorganizational relations; work design; pay systems; cross-cultural issues in industrial relations; and structural and technological determinants of human behavior. The Ph.D. degree requires 24 units of credit beyond the baccalaureate degree, satisfactory completion of qualifying examinations in industrial relations theory and the area of specialization, and a thesis.

A student interested in earning a Ph.D. degree after receiving a master's degree at the institute should indicate this fact on the appli-



cation for admission. Students with outstanding undergraduate records or with a master's degree from another institution may apply for entrance directly to the doctoral program. The degree should be in labor and industrial relations or an allied field such as business administration, economics, history, sociology, political science, or psychology. The applicant should submit with the application evidence of research competence (master's thesis, term papers, an undergraduate thesis, special reports, or published articles). All papers will be returned.

#### FINANCIAL AID

The institute offers research assistantships and fellowships to high-ranking graduate students and to new students whose undergraduate records are superior. A research assistant receives a salary plus exemption from tuition and some fees. The Graduate College also awards fellowships that carry stipends plus tuition and service fee waivers. Tuition and service fee waivers may also be granted but do not carry a stipend.

### LANDSCAPE ARCHITECTURE

*Head of the Department:* Vincent J. Bellafiore

*Coordinator of the Graduate Program:* Douglas M. Johnston

*Correspondence and Information:* Coordinator of the Graduate Program, Department of Landscape Architecture, University of Illinois at Urbana-Champaign, 214 Mumford Hall, 1301 West Gregory Drive, Urbana, IL 61801; (217) 333-0176

#### GRADUATE FACULTY

*Professors:* J. R. Anderson, V. J. Bellafiore, T. G. Harkness, L. D. Hopkins, J. A. Jakle, B. A. Orland, R. B. Riley, E. S. Weidemann  
*Associate Professors:* K. H. Anthony, D. M. Johnston, G. B. Kesler, D. A. Kovacic, J. Vining  
*Assistant Professors:* C. Emmerling-DiNovo, M. G. Helgeson, J. F. Johnson, A. Sinha, C. D. Verson  
*Emeritus Professor:* W. M. Keith

#### GRADUATE DEGREE PROGRAMS

The Department of Landscape Architecture offers work leading to the master of landscape architecture degree. The program is designed to enable students to gain fresh insights and to experiment with new applications pertaining to land and its use by people. Courses and faculty research activities range from at-site to regional scales and include land resources planning and design, and behavioral and cultural factors in design. The scope of work may include ecological and behavioral assessment, human perception, and comprehensive computer-based methods. Before submitting an application, students should obtain a departmental pamphlet that describes the specific areas of study and the time needed to complete the requirements.

Several faculty members in the department are also faculty members in the regional planning Ph.D. program administered by the Department of Urban and Regional Planning. See the program description under the Department of Urban and Regional Planning for more information.

#### ADMISSION

The Graduate College admission requirements apply, except that higher TOEFL scores are required for international students. All students are required to take the general Graduate Record Examination. Students are admitted on an individual basis according to a review of their prior accomplishments with an emphasis on academic achievement. Candidates from undergraduate design programs must submit samples of their design work with their applications. Candidates without undergraduate preparation in landscape architecture will be admitted on limited status and must complete undergraduate prerequisite courses in addition to graduate work.

#### MASTER OF LANDSCAPE ARCHITECTURE

A student must complete a minimum of 12 units, with at least 6 units taken within the department and at least 3 units of electives chosen from courses offered outside the department. At least 4½ units must be taken in 400-level courses. Specific courses to be taken are determined in consultation with an adviser. These courses culminate in a master's thesis (Landscape Architecture 499) that permits the student, under the approval and supervision of a faculty committee, to pursue independently an in-depth work of particular relevance for landscape architecture.

#### FINANCIAL AID

Students compete for fellowships, tuition and service fee waivers, and assistantships. Selection is based on the academic achievement and qualifications of the student.

### LATIN AMERICAN AND CARIBBEAN STUDIES

*Director of Graduate Studies:* Joseph L. Love

*Correspondence and Information:* Director of the Center for Latin American and Caribbean Studies, University of Illinois at Urbana-Champaign, 201 International Studies Building, 910 South Fifth Street, Champaign, IL 61820

#### GRADUATE FACULTY

*Professors:* L. Alston, C. Augspurger, W. Baer, W. Blaylock, F. Boyle, C. Deal, J. Garcia, E. Garfield, N. Gonzalez, D. Grove, M. Lewis, S. Lo, J. Love, E. Mayer, T. Meehan, M. Palencia-Roth, R. Reisner, L. Reynolds, S. Schmidt, I. Schulman, D. Seigler, J. Thompson, J. van Es, J. Warfield, N. Whitten, R. Zuidema

*Associate Professors:* A. Aiech, T. Bassett, P. Borgeson, S. Brown, P. Garber, N. Jacobsen, J. Lee, K. Manthorne, E. McClure, P. Sharpe, M. Solana, T. Turino, W. VanPatten, J. Wilcox

*Assistant Professors:* B. Aten, L. Delgado, A. Escobar, R. Garcia, S. Gillespie, D. Grynspan, J. Hualde, W. Maloney, G. Munck, M. Roy-Fequiere, H. Silverman, A. Torres, M. van de Guchte

#### GRADUATE DEGREE PROGRAMS

Graduate minors in Latin American and Caribbean studies are administered by the director of the Center for Latin American and Caribbean Studies.

Candidates for the master's degree who elect a minor in Latin American and Caribbean studies must complete 2 units from the courses prescribed by the center. Doctoral candidates who elect a minor in this area must complete 4 units for one minor or 2 units for a split minor. Courses must be taken in at least two departments; lists of courses fulfilling the minor are available from the center. A combined graduate program in agricultural economics and foreign area studies (in this case, Latin American and Caribbean Studies) is also available.

Students in technical and professional colleges and schools of the University of Illinois at Urbana-Champaign who seek knowledge of the Latin American and Caribbean region and languages are invited to consult with the director of the center or with their advisers in order to develop programs suited to their individual needs. Such a program may often be adopted as a special minor under existing regulations if the student so desires. These courses are of particular value to students who intend to carry on technical or professional work in the Latin American and Caribbean area for government, private business, publishing, or religious organizations.

A high level of proficiency in one or more languages of the region (Spanish, Portuguese, and Indian languages) is required. For course information, requirements, and methods used to establish the level of proficiency, contact the student adviser or center director.

#### LANGUAGE INSTRUCTION

The center offers Quechua, the native language spoken by 13 million people in the Andean republics.

#### FINANCIAL AID

The center is a recipient of Federal Government Title VI Foreign Language and Area Studies (FLAS) Fellowships for Graduate Studies in any discipline that includes a minor in Latin American studies and an intensive program of language instruction. Summer fellowships for intensive language courses abroad or in the United States are available. Small travel grants for graduate students wishing to do research during the summer are also available on a competitive basis. Both of these programs depend on outside funding and, thus, cannot be guaranteed in any given year.

### LAW

*Dean of the College:* Thomas Mengler

*Director of Graduate and International Legal Studies:* L. Reynolds

*Correspondence and Information:* Office of Graduate and International Legal Studies, University of Illinois at Urbana-Champaign, 106 Law Building, 504 East Pennsylvania Avenue, Champaign, IL 61820; (217) 333-6066

**GRADUATE FACULTY**

*Professors:* S. M. Bainbridge, F. A. Boyle, J. D. Colombo, W. J. Davey, D. A. Driggs, M. W. Finkin, E. T. Freyfogel, O. F. Harris, S. L. Harris, R. L. Kaplan, K. Kinports, P. B. Maggs, J. H. McCord, T. M. Mengler, D. J. Merritt, J. E. Nowak, J. P. Pfander, L. A. Reynolds, S. F. Ross, R. D. Rotunda, E. W. Shoben, C. J. Tabb, T. S. Ulen

*Associate Professor:* C. T. Terry

*Assistant Professor:* E. Deason, E. Franklin, A. Leipold

*Emeritus Professors:* J. E. Cribbet, G. T. Frampton, H. D. Krause, W. R. LaFave, R. Reiser, V. J. Stone

**PROGRAMS OF GRADUATE STUDY**

Programs of graduate study in law are designed for law graduates who wish to pursue advanced study and conduct independent research under the direction of the College of Law faculty. Three advanced degrees are conferred by the College of Law: the degree of master of comparative law (M.C.L.), the degree of master of laws (L.L.M.), and the degree of doctor of the science of law (J.S.D.). Because each of these degrees differs substantially from the others in terms of purpose and curricular requirements, admission is specific for a particular degree program. Overall coordination of the graduate program is the responsibility of the director of the Office of Graduate and International Studies, and individual inquiries should be addressed to this office.

**MASTER OF COMPARATIVE LAW (M.C.L.)**

The degree of master of comparative law is designed primarily for foreign lawyers or law teachers who wish to increase their knowledge of the Anglo-American common law system and engage in comparative legal research.

Candidates for the M.C.L. must complete a minimum of 8 units of study in law. These 8 units must consist of 6 units of course work to be selected from among the curricula offered (excluding 399 credit). In addition, all M.C.L. students must enroll in the course Introduction to the U.S. Legal System, which carries 2 units of credit.

**MASTER OF LAWS (L.L.M.)**

The master of laws (L.L.M.) degree is open to both graduates of U.S. law schools and, under certain conditions, to applicants whose prior law study was taken in a non-common law jurisdiction (including those adhering to the civil law).

Applicants who have completed a course of basic law study in a civil law jurisdiction are eligible for admission to the L.L.M. degree program if they have scored 600 or above on the TOEFL examination before beginning their graduate studies. Applicants who score below 600 on the TOEFL may be admitted into the L.L.M. program only upon petition at the end of the first semester of study. Admission will be granted if the applicant has demonstrated a superior capacity for law study as evidenced by his or her academic performance in the course taken in the first semester (e.g., a minimum of 4.0 GPA).

**Degree Requirements:** (a) Candidates whose prior legal study was in a U.S. or other common law jurisdiction must satisfactorily complete 4 units of regular course work and 4 units of thesis research leading to a dissertation. Such courses must be elected from among the courses and seminars offered in the second- or third-year curriculum (see Description of Courses in the College of Law catalog). However, 399 or 499 research credit may not be counted toward the fulfillment of their 4-unit course requirement. Upon petition, one law-related course offered by other University departments may be counted as credit toward the L.L.M. degree.

In addition to the four units of regular course work, candidates for the L.L.M. degree whose prior legal study was in a common law jurisdiction must complete a dissertation of acceptable quality.

(b) Candidates whose prior legal study was in a civil or other non-common law jurisdiction must complete a total of 8 units of course work. In addition to the course Introduction to the U.S. Legal System (which will satisfy one unit of credit), candidates for the L.L.M. degree must complete seven units of regular course work selected from any courses in the curriculum excluding 399 independent research or 499 dissertation research.

**DOCTOR OF THE SCIENCE OF LAW (J.S.D.)**

No applicant will be admitted to J.S.D. candidacy until he or she has completed a master's degree in law at the University of Illinois. The decision to admit will be based on the truly outstanding level of the applicant's performance in courses taken during the period in residence as well as his or her demonstrated ability for independent research and writing as evidenced by the authorship of at least one article appearing in a U.S. legal periodical.

The requirements for the J.S.D. degree consist of the preparation of a dissertation of publishable quality and a program of study prescribed by the Committee on Graduate and International Legal Studies. This program of study includes, as an essential element, research and writing under faculty supervision in areas related to the candidates J.S.D. thesis. In addition, candidates will generally be required to take those courses and seminars from among the College of Law course offerings that relate to the candidate's dissertation topic. After submission of the dissertation, the candidate must pass an oral examination in defense of the dissertation before a doctoral committee of the faculty specifically convened for that purpose.

**FINANCIAL AID**

The College of Law offers six instructorships to students whose backgrounds have been in the Anglo-American common law system and several research assistantships for students with backgrounds in other legal systems. In addition, a limited number of fellowships and waivers of tuition are available. All types of financial aid enable students to complete the degree requirements within the regular time limits. Because of the keen competition for the few available financial grants, application for these should be made as early as possible, preferably by February 1.

**LEISURE STUDIES**

*Head of the Department:* William R. McKinney

*Correspondence and Information:* William R. McKinney, Head, Department of Leisure Studies, University of Illinois at Urbana-Champaign, 104 Huff Hall, 1206 South Fourth Street, Champaign, IL 61820; (217) 333-4410

**GRADUATE FACULTY**

*Professors:* R. J. Burdge, J. R. Kelly, G. C. Roberts

*Associate Professors:* D. J. Brademas, G. E. Chick, R. D. Espeseth, D. R. Fesenmaier, C. McDonald, W. R. McKinney, L. Barnett Morris, D. Williams

*Assistant Professors:* J. D. Burnam, C. Ramos, K. Shinew, L. Valerius, B. E. Wicks

*Emeritus Professors:* J. J. Bannon, A. V. Sapora

**GRADUATE DEGREE PROGRAMS**

The Department of Leisure Studies offers a program of study leading to the master of science and the doctor of philosophy degrees. The master of science program educates students about leisure behavior, public parks and recreation systems, travel and tourism, and various private and semipublic settings providing leisure services. The M.S. degree may also serve as the first step toward the Ph.D. program. The Ph.D. program is, in general, designed to develop educators and research personnel in the study of leisure behavior, the management of recreation and sport systems that provide leisure services, or both.

**ADMISSION**

The Graduate College admission requirements apply. Specifically, the admission requirements are a minimum grade-point average of 4.0 (A = 5.0) for the last 60 hours of undergraduate work and any graduate work completed, and satisfactory verbal, quantitative, and analytical Graduate Record Examination scores. Preference is given to applicants who will be full-time students and active degree candidates.

**MASTER OF SCIENCE**

A candidate for the M.S. degree must spend at least one semester on campus and complete a minimum of 8 units, 3 of which must be in the 400 series and 2 of the 3 in leisure studies; 4 of these units should be in the student's area of specialization. A professional paper for 1 unit of credit may be submitted in addition to course work, or a thesis may be written for 2 units of credit. A full-time student can complete the program in three or four semesters.

**DOCTOR OF PHILOSOPHY**

A candidate for the Ph.D. degree must spend at least two years in residence and satisfactorily complete a minimum of 16 units beyond the master's degree. These units include the credit for the Ph.D. thesis. Departmental requirements include satisfactory performance on the doctoral qualifying examination, the written preliminary examination at the completion of formal course work, the oral preliminary examination on the proposed research for the thesis, and a final examination in defense of the doctoral thesis.

**FINANCIAL AID**

The department offers quarter-time and half-time assistantships in teaching, administration, and research, as well as tuition and fee waivers and the opportunity to apply for fellowships.

## LIBRARY AND INFORMATION SCIENCE

*Dean of the Graduate School of Library and Information Science:* Leigh S. Estabrook

*Correspondence and Information:* Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, 501 E. Daniel Street, Champaign, IL 61820-6212; (217) 333-7197

### GRADUATE FACULTY

*Professors:* L. Estabrook, K. L. Henderson, D. W. Krummel, F. W. Lancaster, S. Richardson, L. Smith, M. Williams

*Associate Professors:* B. Allen, E. Hearne, B. Schatz, P. Stenstrom, T. L. Weech

*Assistant Professors:* G. C. Bowker, G. B. Newby, J. B. Sutton

*Lecturers:* A. Bishop, C. Jenkins

### GRADUATE DEGREE PROGRAMS

The Graduate School of Library and Information Science offers programs of study leading to the master of science, the certificate of advanced study, and the doctor of philosophy degrees. The master of science degree program prepares men and women for professional careers in all types of libraries and information centers. The certificate of advanced study program provides the opportunity (1) to study an aspect of library and information science in greater depth than is possible in the master of science program, (2) to refresh and upgrade one's professional training several years after the master of science program or (3) to redirect one's career into a different area of library and information science. The doctor of philosophy is a research degree program.

### ADMISSION

The general admission requirements of the Graduate College apply. Consideration is also given to language study, relevant work experience, letters of reference, Graduate Record Examination aptitude test scores, and evidence of leadership. International students must score at least 600 on the Test of English as a Foreign Language. The certificate of advanced study and doctor of philosophy programs require a master's degree in librarianship from a library school with an A.L.A.-accredited program and a grade-point average of at least 4.0 (A = 5.0) in the master's program. For the doctor of philosophy program, two years of library work experience at the professional level and an interview with the school's advanced studies committee are also required.

### MASTER OF SCIENCE

The M.S. degree requires of all students 10 units of graduate study, including 1 unit of Library and Information Science 300, 1/2 unit of Library and Information Science 307, and 1/2 unit of Library and Information Science 320. Possible areas of specialization include all main types of libraries (e.g., academic, public, school, and special), all main types of work in libraries (e.g., cataloging, reference, and children's services), plus other concentrations such as information science, library automation, rare books, and archives. Students and advisers work closely together in selecting appropriate courses of study to meet individual needs. A thesis is not required but is available as an option. A minimum of twelve months is required to complete the master's program.

### CERTIFICATE OF ADVANCED STUDY (C.A.S.)

The certificate is awarded upon the successful completion of 10 units of graduate course work beyond the master's degree. Of the 10 units, at least 6, including Library and Information Science 459 (C.A.S. Project), must be in library and information science. Students and advisers work closely together in selecting appropriate courses of study to meet individual needs. A minimum of twelve months is required to complete the C.A.S. program.

### DOCTOR OF PHILOSOPHY

The program consists of three stages: (1) generalization (9 units of course work required of all doctoral students), (2) specialization (3 or more units of elective course work plus a research tool), and (3) thesis (8 or more units). Thus, a minimum of 12 units of graduate course work plus 8 units of thesis credit are required. A minimum of two years is required to complete the necessary course work; an additional year or more, preferably in residence, is required for the thesis. A 4.5 GPA is the minimum for the four required seminars.

### RESEARCH INTERESTS, FACILITIES, AND RESOURCES

Major areas of faculty research interest include bibliography, cataloging and classification, information storage and retrieval, library automation, nonprint media, library services for children and young

adults, and reference tools and services. The school's Library Research Center engages in applied and pure research on contract; staff members of the Library Research Center are available to students and faculty for consultation and guidance. A minicomputer network and CD-ROM system are integral to teaching and learning activities. The University of Illinois Library provides a vast reservoir of resources for all types of study and research in library and information science.

The school maintains an ongoing commitment to continuing education through conferences, institutes, workshops, and special course offerings. Of particular note are the annual Allerton institutes and clinics on library applications of data processing. An extensive publications program includes the annual *Proceedings* of each of these, plus *Library Trends*, *Occasional Papers*, and a variety of monographs.

### TEACHER EDUCATION MINOR IN LIBRARY SCIENCE<sup>1</sup>

The Graduate School of Library and Information Science offers courses for advanced undergraduates in the College of Liberal Arts and Sciences or the College of Education who wish to qualify both as classroom teachers and as librarians in small elementary or secondary schools or as assistant librarians in large schools. Full professional training leading to the master's degree in library and information science is required of those who wish to prepare for positions in larger schools, for supervisory positions in the school library field, and for positions as media specialists.

Students interested in this program should contact the dean of the Graduate School of Library and Information Science.

### FINANCIAL AID

Financial aid may be available from the school, the University of Illinois Library, area libraries, and the like, in the form of graduate assistantships, preprofessional positions, and hourly paid work. Also, the school has a limited number of fellowships and tuition waivers for which doctoral students tend to be favored over C.A.S. and master's students.

1. At the time of publication, this minor was in the process of being eliminated. Students considering this minor should contact the teacher certification officer in 110 Education Building.

## LIFE SCIENCES

(Including Biology; Cell and Structural Biology; Ecology, Ethology, and Evolution; Entomology; Microbiology; Neuroscience; Physiology and Biophysics; Plant Biology)

*Interim Director of the School:* Donald R. Ort

*Director of Biology Programs:* Edward Brown

*Correspondence and Information:* Biology Programs, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-8208; FAX: (217) 244-1224

### GRADUATE DEGREE PROGRAMS

Described in detail on the following pages are study programs leading to graduate degrees in cell and structural biology; ecology, ethology, and evolution; entomology; microbiology; neuroscience; physiology and biophysics; and plant biology. Biology programs, including the M.S. in biology, the M.S. in the teaching of biological sciences and general sciences, and the Ph.D. in biology, specializing in physiological and molecular plant biology, are administered within the school and are described below.

### ADMISSION

To be considered for any program, an applicant must have an overall grade-point average of 4.0 (A = 5.0), must include a brief statement of educational objectives with the formal application, and must submit three letters of recommendation. GRE scores are mandatory for consideration for the Ph.D., but are not required for M.S. degrees.

### MASTER OF SCIENCE IN BIOLOGY

This program is intended for students who wish to increase their knowledge of biology and become involved with graduate-level research in biology without the long-term commitment of a Ph.D. program. The work plan is personally designed by each student in consultation with an appropriate adviser. Breadth of training is encouraged. (For those wishing to concentrate their efforts, M.S. programs are available in most of the departments in the School of Life Sciences.) The degree requires 8 units of course work, of which 3 units must be in 400-level courses. Active status in the program is maintained through registration in two 300- or 400-level biology courses per semester and a grade-point average of at least 4.0 (A = 5.0). A



research report is required of all candidates for the degree. Before the degree will be granted, the student must also complete or show college credit for the following: one year of physics with laboratory, a course in organic chemistry with laboratory, and a semester of calculus.

#### MASTER OF SCIENCE IN THE TEACHING OF BIOLOGICAL SCIENCES AND GENERAL SCIENCE

This program is designed for graduates in a biological discipline who intend to enter the teaching profession and for individuals already teaching biology or general science in junior high school, high school, or community college. The degree is awarded upon completion of a minimum of 8 units of course credit and proof of state teacher certification. Contact the certification officer of the Council Teacher Education (110 Education Building, 333-7195) for information pertaining to pursuing certification while enrolled in the graduate program. Course work consists of 4 units in biological sciences, 2 units in education (see page 196) and 2 elective units. Electives are usually taken in biological sciences, education, or both.

#### DOCTOR OF PHILOSOPHY IN BIOLOGY

The School of Life Sciences offers a degree leading to a Ph.D. in biology, specializing in physiological and molecular plant biology. This is an interdisciplinary program staffed by plant biologists from seven departments in the College of Agriculture and the College of Liberal Arts and Sciences: agronomy, biochemistry, forestry, horticulture, physiology and biophysics, plant biology, and plant pathology. Thesis research can be conducted in any of a broad range of areas, which are organized into three alternative tracks of study: (1) organismal and community plant physiology, (2) plant biochemistry and biophysics, and (3) plant development and molecular biology.

#### FINANCIAL AID

Support for graduate training is available in the form of teaching or research assistantships, traineeships, and University fellowships. Prospective students may obtain application forms and relevant information for departmental study programs from the executive officer of the appropriate department or, for biology programs, from the School of Life Sciences.

#### CELL AND STRUCTURAL BIOLOGY

Head of the Department: A.F. Horwitz

Correspondence and Information: Department of Cell and Structural Biology, University of Illinois at Urbana-Champaign, 506 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 244-8116

#### GRADUATE FACULTY

Professors: T. G. Ebrey, V. Gelfand, M. U. Gillette, W. T. Greenough, A. F. Horwitz, B. Katzenellenbogen, S. J. Kaufman, B. Kemper, D. A. Lauffenburger, A. H. Wang  
Associate Professors: J. A. Cameron, C. Doe, S. Lazarowitz, J. E. Mittenthal, J. A. Weyhenmeyer  
Assistant Professors: A. Belmont, R. Blackman, A. Chiba, M. E. A. Churchill, D. F. Clayton, A. M. Craig, J. J. Henry, D. H. Rivier

#### GRADUATE DEGREE PROGRAM

The Department of Cell and Structural Biology administers a graduate degree program as an option in biology. Departmental faculty are concerned with the structural and functional relationships of cells and organisms, with research emphases upon animal cell and molecular biology, neurobiology, structural biology, and developmental biology.

#### ADMISSION

Applications are evaluated on an individual basis. The formal entrance requirement is a minimum grade-point average of 4.0 (A = 5.0). International students, whose native language is not English, are required to have a minimum TOEFL score of 590. Important factors in the evaluation of applications are general academic performance, background in the biological and chemical sciences and mathematics, Graduate Record Examination scores, and letters of recommendation from college professors. Although applications from qualified students are considered throughout the year, the deadline for submission of applications for fall semester is February 15.

#### DOCTOR OF PHILOSOPHY IN BIOLOGY: CELL AND STRUCTURAL BIOLOGY AREA OF SPECIALIZATION

The program leads to the doctor of philosophy degree. In order to complete successfully the graduate program in cell and structural biology, the student must fulfill requirements in the following categories: course work, a qualifying examination, a preliminary examination, defense of the thesis, teaching, and departmental seminars. A

brochure providing additional information about the program is available upon request.

#### SPECIALIZATION IN GENETICS

The Department of Cell and Structural Biology offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### FINANCIAL AID

Financial aid is available to a limited number of qualified applicants in the form of (1) University fellowships and tuition and fee waivers, awarded on a competitive basis; (2) teaching assistantships awarded by the department; and (3) research assistantships allotted by individual faculty members with research funds available for this purpose. Exceptional students will qualify for support from the Cell and Molecular Biology Training Program. Financial packages can be assembled from two or more of the above sources for qualified candidates.

#### ECOLOGY, ETHOLOGY, AND EVOLUTION

Head of the Department: L.L. Getz

Correspondence and Information: Department of Ecology, Ethology, and Evolution, University of Illinois at Urbana-Champaign, 515 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-7801

#### GRADUATE FACULTY

Professors: C. K. Augspurger, G. O. Batzli, M. R. Berenbaum, R. W. Burkhardt, T. H. Frazzetta, L. L. Getz, A. W. Ghent, E. E. Herricks, J. Hirsch, L. M. Page, D. P. Philipp, S. L. Portnoy, G. S. Whitt, C. R. Woese  
Associate Professors: S. H. Berlocher, E. H. Brown, Jr., E. H. DeLucia, R. A. Herendeen, G. H. Kieffer, R. P. Larkin, K. N. Paige, S. K. Robinson, D. C. Sweeney, T. Uzzell  
Assistant Professors: J. D. Brawn, J. H. Conner, E. J. Heske, S. L. Kohler, D. W. Pfennig, D. A. Soluk, D. H. Wahl

#### GRADUATE DEGREE PROGRAMS

The Department of Ecology, Ethology, and Evolution administers graduate degree programs as options in biology. Areas of training include physiological, population, community, and evolutionary ecology; ethology, physiological mechanisms of behavior, and behavior genetics; evolutionary biology, population genetics, karyotype and molecular analysis, functional anatomy, and systematics; quantitative analysis of genetic and ecological systems; and resource management.

#### ADMISSION

Acceptance for graduate study in ecology, ethology, and evolution is based on the applicant's research potential and academic achievement. An undergraduate degree in the life sciences is the usual preparation, but students majoring in mathematics, computer science, or the physical and social sciences are also considered. Courses required for admission are inorganic and organic chemistry, biochemistry, a year of physics, and mathematics through calculus. Students lacking one or more of these courses may be admitted with the provision that such deficiencies be completed in addition to the normal graduate course load. A grade-point average of at least 4.0 (A = 5.0) for the last 60 hours of undergraduate work and for any graduate study is mandatory, and good scores on the Graduate Record Examination are necessary. Considerable emphasis is placed on a student's interest and ability in research as demonstrated by previous work and letters of recommendation.

#### MASTER OF SCIENCE

With approval of the M.S. biology committee, students in ecology, ethology, and evolution may pursue an M.S. degree in biology under the supervision of a departmental adviser (see master of science in biology, page 213).

#### DOCTOR OF PHILOSOPHY IN BIOLOGY: ECOLOGY, ETHOLOGY, AND EVOLUTION AREA OF SPECIALIZATION

Candidates for the Ph.D. degree must demonstrate excellence by examination and, in consultation with an adviser and doctoral committee, plan and carry out original thesis research with distinction. A preliminary examination evaluating the ability of students to integrate subject matter related to their field is given during the third year.

Courses in both statistics and computer science are required, and proficiency in one or more foreign languages may be required, depending on the field of research. Additional requirements may be prescribed by the adviser and doctoral committee. A final examination, in which the student defends the thesis, and a presentation of the thesis at a departmental seminar complete the program.

#### **SPECIALIZATION IN GENETICS**

The Department of Ecology, Ethology, and Evolution offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### **ENTOMOLOGY**

*Head of the Department:* May R. Berenbaum

*Correspondence and Information:* Admissions Committee, Department of Entomology, University of Illinois at Urbana-Champaign, 320 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-2910

#### **GRADUATE FACULTY**

*Professors:* M. R. Berenbaum, G. P. Waldbauer

*Associate Professors:* S. H. Berlocher, F. Delcomyn, E. G. MacLeod, H. M. Robertson, G. E. Robinson

*Assistant Professor:* S. E. Fahrback

*Emeritus Professors:* S. Friedman, R. L. Metcalf, J. G. Sternburg

*Departmental Affiliates:* E. J. Armbrust, C. E. Eastman, A. W. Ghent, M. E. Gray, M. E. Irwin, M. R. Jeffords, W. E. LaBerge, E. Levine, J. V. Maddox, J. Nardi, R. J. Novak, D. Onstad, W. G. Ruesink, D. Seigler, K. L. Steffy, D. J. Voegtlin, C. R. Vossbrinck, D. W. Webb, R. A. Weinzierl, R. Wiedenmann, A. Zangerl

#### **GRADUATE DEGREE PROGRAMS**

The Department of Entomology offers graduate work leading to the master of science and doctor of philosophy degrees. The program is designed to accommodate incoming students with a wide range of entomological expertise. The goal of the program is to provide students with a strong background in basic biology as it relates to insects and to equip them with the specialized intellectual and technical skills to pursue a career in research, teaching, and service in entomology and related biological disciplines.

Major areas of specialization within the department include systematics, evolutionary biology, molecular genetics, phytochemical ecology, population biology, toxicology, neurophysiology and neurobiology, neuroanatomy, developmental biology, behavior, sociobiology, paleoentomology, sensory and nutritional physiology, endocrinology, and integrated pest management.

#### **ADMISSION**

Graduate College admission requirements apply. Previous training in entomology is unnecessary. It is recommended that students who intend to study for advanced degrees in entomology gain a thorough grounding in the physical and biological sciences, mathematics, and the liberal arts.

#### **MASTER OF SCIENCE**

A candidate for the M.S. degree is expected to become knowledgeable in entomology through courses and fieldwork and to complete a research thesis in an area of interest chosen in consultation with an adviser. The grade-point average required for degree certification is 4.0 (A = 5.0).

#### **DOCTOR OF PHILOSOPHY**

A candidate for the Ph.D. degree should be conversant with entomological aspects of integrated pest management ecology, genetics, systematics, and physiology. The candidate must demonstrate professional competence in a specialized area by presenting an acceptable thesis based on original research designed in consultation with a faculty adviser and approved by a graduate faculty thesis committee. Proficiency in statistics and reading a foreign language of importance to the area of research are also required. The grade-point average necessary for degree certification is 4.0.

#### **SPECIALIZATION IN GENETICS**

The Department of Entomology offers an area of specialization in genetics. The program is flexible and provides the student with

proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### **FINANCIAL AID**

Graduate student awards are available, including teaching and research assistantships. In addition, various types of fellowships, traineeships, and tuition and service fee waivers are offered by the Graduate College and the School of Life Sciences. A single application to the department is sufficient for consideration for all awards currently available.

#### **MICROBIOLOGY**

*Head of the Department:* Charles G. Miller

*Correspondence and Information:* Department of Microbiology, University of Illinois at Urbana-Champaign, 131 Burrill Hall, 407 South Goodwin Avenue, Urbana, IL 61801; (217) 333-1373

#### **GRADUATE FACULTY**

*Professors:* A. R. Crofts, J. E. Cronan, S. K. Farrand, J. F. Gardner, J. Konisky, C. G. Miller, M. J. Piewa, A. A. Salyers, E. W. Voss, C. R. Woese, R. S. Wolfe

*Associate Professors:* S. G. Lazarowitz, S. R. Maloy, G. J. Olsen, E. R. Vimr

*Assistant Professors:* D. W. Celerander, J. A. Imlay, D. N. Nunn, D. H. Rivier, J. M. Slauch

#### **GRADUATE DEGREE PROGRAMS**

The Department of Microbiology offers graduate work leading to the master of science and doctor of philosophy degrees. For both degrees, the program provides a strong basic background in microbiology, microbial physiology, biochemistry, cell biology, molecular genetics, and molecular biology. Students completing the program are qualified for positions in academic, industrial, or government laboratories and particularly for further specialization in a chosen subarea of microbiology and related disciplines.

Major areas of research interest are gene expression and regulation in prokaryotes and eukaryotes; viral function and development including virus host-cell interactions; membrane biogenesis, including protein insertion; fatty acid and phospholipid synthesis; bacterial pathogenesis and bacteria-host interactions; immunoglobulin chemistry, structure, and expression; anaerobic microbiology; the biochemistry and physiology of methane formation; structure and function of catalytic and regulatory RNAs; mechanisms of oxygen toxicity; mechanisms of photosynthetic energy conversion; prokaryote phylogeny and evolution; and Archaea.

#### **ADMISSION**

Students electing microbiology as a major for an advanced degree should have had a total of at least 15 credit hours of physical or biological sciences, including general biology or microbiology, chemistry through organic chemistry and biochemistry, and mathematics through calculus.

#### **MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY**

Study programs are flexible and are dependent upon the experience, interests, and goals of each student. Experience in teaching is considered to be a vital part of the graduate program and is required as part of the academic work of all Ph.D. degree candidates.

#### **SPECIALIZATION IN GENETICS**

The Department of Microbiology offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### **NEUROSCIENCE PROGRAM**

*Program Chair:* Lloyd Barr

*Correspondence and Information:* Neuroscience Program, School of Life Sciences, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-8208

**GRADUATE FACULTY**

*Professors:* L. Barr, P. M. Best, M. G. H. Coles, E. Donchin, T. G. Ebrey, A. S. Feng, M. Gabriel, M. U. Gillette, R. Gillette, M. Glaser, W. T. Greenough, J. E. Heath, A. F. Horwitz, G. L. Jackson, E. G. Jakobsson, J. M. Juraska, K. W. Kelley, P. C. Lauterbur, R. L. Magin, J. G. Malpeli, G. A. Miller, G. W. Ordal, A. J. Parker, V. D. Ramirez, E. J. Roy, K. J. Schulten, T. G. Waldrop

*Associate Professors:* M. T. Banich, M. J. Dawson, F. Delcomyn, C. Q. Doe, J. Gergen, M. A. Holzwarth, G. A. Iwamoto, E. Meisami, J. E. Mittenhall, G. E. Robinson, B. R. Schatz, J. A. Weyhenmeyer, B. C. Wheeler, H. E. Whiteley, J. F. Zachary

*Assistant Professors:* K. A. Akins, T. J. Anastasio, D. F. Clayton, N. J. Cohen, S. E. Fahrback, W. Heller, T. L. Karr, M. E. Nelson, S. L. Schantz, J. V. Sweedler, R. Wickesberg

*Professors Emeritus:* J. Hirsch, C. L. Prosser

**GRADUATE DEGREE PROGRAM**

The neuroscience program is an interdisciplinary, and highly individualized Ph.D. program. Students have varied backgrounds but typically have undergraduate degrees in psychology, biology, electrical engineering, or computer science. The neuroscience program guides students to become productive, scholarly neuroscientists with the objective of preparing for research and teaching positions at major universities and research institutions. Joint M.D./Ph.D. and D.V.M./Ph.D. programs are available. The following areas of concentration exemplify the breadth of the program: cognitive and behavioral neuroscience, neuroanatomy, neurophysiology, neurochemistry, neuroendocrinology, developmental neuroscience, molecular neuroscience, computational neuroscience, and biomedical neuroscience.

**DOCTORAL DEGREE PROGRAM**

Because of the breadth of the fields in this program, the course work is tailored to the student's fields of interest as declared by a major and at least two minor areas of concentration from among those listed above. A faculty committee of representatives from the major and minor areas will then meet regularly with the student to plan course work and research experience. The goal of this plan is to allow maximal flexibility while providing students with close guidance. Courses and laboratory research experience are supplemented by weekly seminars in neurobiology.

**ADMISSION AND FINANCIAL AID**

Applications are considered individually by the admissions committee. Graduate Record Examination scores are required. Admission and financial aid are considered together. The neuroscience program generally supports all students in good standing with a stipend and tuition and fee waivers throughout their tenure in the program. Support may come in the form of fellowships, traineeships, research assistantships, or teaching assistantships according to the student's qualifications.

**PHYSIOLOGY AND BIOPHYSICS**

*Head of the Department:* A. S. Feng

*Correspondence and Information:* Department of Physiology and Biophysics, University of Illinois at Urbana-Champaign, 524 Burrill Hall, 407 South Goodwin Avenue, Urbana, IL 61801; (217) 333-1735

**GRADUATE FACULTY**

*Professors:* J. M. Bahr, L. Barr, P. M. Best, D. E. Buetow, A. L. DeVries, H. S. Duceff, F. Dunn, T. G. Ebrey, A. S. Feng, M. U. Gillette, R. Gillette, W. T. Greenough, J. E. Heath, S. I. Helman, G. L. Jackson, E. Jakobsson, B. S. Katzenellenbogen, B. W. Kemper, P. C. Lauterbur, C. L. Prosser, V. D. Ramirez, E. J. Roy, O. D. Sherwood, I. A. Siegel, W. W. Slesator, T. G. Waldrop, C. A. Wright

*Associate Professors:* M. J. Dawson, F. Delcomyn, M. Holzwarth, G. A. Iwamoto, E. Meisami

*Assistant Professors:* T. J. Anastasio, A. M. Nardulli, M. E. Nelson, S. Subramaniam, R. W. Tsika

**Physiology****GRADUATE DEGREE PROGRAM**

The physiology graduate program is designed to provide individualized training in preparation for research and teaching careers in molecular, cellular, integrative (systems), and comparative physiology. The objective of the training is to produce scientists who are technically competent and broadly educated in physiology. The program offers a master of science degree in physiology, a Ph.D. degree in physiology, and also a joint M.D./Ph.D. degree in conjunction with the College of Medicine.

**ADMISSION AND FINANCIAL AID**

Applicants for graduate study in physiology are screened by an admissions committee. Students should have a strong undergraduate training in science. The Graduate College admission requirements apply. To be admitted, students should have a grade-point average between an A and a B and letters of recommendation that indicate ability to perform graduate work. Applicants are required to submit scores of the Graduate Record Examination or similar examinations. Fellowships and teaching or research assistantships are available for qualified students.

**MASTER OF SCIENCE**

A master's degree requires 8 or more units of graduate work drawn from the offerings of this and other departments. Each student must submit a report and pass an oral examination on it. The examination is conducted by a faculty qualifying committee.

**DOCTOR OF PHILOSOPHY**

The doctoral program uses a flexible approach to curriculum requirements. Students are required to take three core courses and two laboratory rotations (five week each), a course in biophysical measurement, and 1/2 unit of a graduate laboratory course which provide a solid background in molecular, cellular, comparative, and integrative physiology. Additional courses in chemistry, biochemistry, immunology, molecular biology, and mathematics are chosen by the students in consultation with a faculty advisory committee. Students are encouraged to begin research as soon as they identify an area of research interest. Research in most areas of physiology can be carried out in the department. The department has a particularly strong focus in biophysics, cellular and molecular physiology, comparative physiology, computational biology, neurophysiology, and reproductive physiology. Courses and lab research are supplemented by a weekly seminar series. Toward the end of the second year, students must submit a report describing their initial research and pass an oral qualifying examination in order to continue in the Ph.D. program. After the student has completed 16 units of graduate course work and formulated a definite research problem, he or she takes a preliminary examination in which the student presents the thesis topic and preliminary research to a faculty committee. Finally, a thesis, which is based on original work in one area of physiology and which demonstrates a thorough knowledge of underlying theories and experimental approaches, must be defended at the final examination. Most students complete their Ph.D. training in four to five years.

**SPECIALIZATION IN GENETICS**

The Department of Physiology and Biophysics offers an area of specialization in genetics. The program is flexible and provides the student with proficiency in several areas of genetics, including molecular genetics, developmental genetics, and evolutionary and population genetics. Students electing this area should have completed course work in calculus, computer sciences, basic genetics, and biochemistry. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

**Biophysics**

*Program Director:* Colin A. Wright

*Correspondence and Information:* Biophysics Office, University of Illinois at Urbana-Champaign, 388 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-1630

**GRADUATE FACULTY**

*Professors:* L. Barr, P. M. Best, A. R. Crofts, P. G. Debrunner, H. S. Duceff, F. Dunn, T. G. Ebrey, A. S. Feng, R. B. Gennis, R. Gillette, Govindjee, E. Gratton, S. I. Helman, E. Jakobsson, D. A. Laufenburger, P. C. Lauterbur, R. Magin, C. L. Prosser, K. Schulten, W. W. Slesator, S. Sligar, T. G. Waldrop, A. H.-J. Wang, K. Weber, J. Whitmarsh, P. G. Wolynes, C. A. Wright

*Associate Professors:* M. J. Dawson, W. W. Mantulin, J. Wand

*Assistant Professors:* T. J. Anastasio, A. Belmont, M. E. A. Churchill, M. E. Nelson, G. U. Nienhaus, S. Subramaniam

**ADMISSION AND FINANCIAL AID**

The objective of the program in biophysics is to give students sufficient training in physics, chemistry, and biology to enable them to apply the conceptual, instrumental, and mathematical approaches of the physical sciences to the solution of biological problems. The curriculum is broadly based and provides an adaptable approach for students entering with previous training in the physical sciences or for



students with a background in biology and some experience in the physical sciences. Admission requirements are usually one year of college biology, one year of college physics, chemistry through organic chemistry, and mathematics through calculus, but deficiencies can be corrected while in training. Applicants must have an admission grade-point average of at least 4.0 ( $A = 5.0$ ). Fellowships, traineeships, and teaching or research assistantships are available for qualified students. Usually, students are expected to obtain at least one semester of teaching experience during their graduate careers.

#### DOCTOR OF PHILOSOPHY

The program has a flexible approach toward curriculum requirements, but an acceptable course program usually includes the following: (1) physical sciences: mathematics through differential equations, physics and physical chemistry, including thermodynamics and elementary quantum mechanics; and biochemistry. (2) biophysics: satisfactory completion of 1½ units of 400-level biophysics courses (excluding individual topic courses, seminars, and research); 6 individual faculty tutorials; and at least one laboratory rotation. Other subjects may be taken with the approval of faculty. (3) Independent research, to commence as soon as practicable after admission. The Ph.D. degree is a research degree, and the program is designed with a major emphasis on individual research.

A qualifying examination, which is offered each semester, must be passed before the end of the fourth semester. After formulating a definite research problem, the student takes the preliminary examination in which the topic is presented to a faculty committee. The committee will also question the candidate on the general research area. Finally, a thesis, which is based on original work and which demonstrates a thorough knowledge of theory and techniques in one of the areas of biophysics, must be defended at the final examination.

#### PLANT BIOLOGY

*Head of the Department:* Carol A. Shearer

*Correspondence and Information:* Associate Head, Department of Plant Biology, University of Illinois at Urbana-Champaign, 265 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801; (217) 333-3260; FAX: (217) 244-7246

#### GRADUATE FACULTY

*Professors:* C. K. Augspurger, M. R. Berenbaum, D. E. Buetow, R. E. Crang, Govindjee, L. I. Nevling, W. L. Ogren, D. R. Ort, T. L. Phillips, K. R. Robertson, D. S. Seigler, C. A. Shearer, C. J. Whitmarsh, C. A. Wright

*Associate Professors:* D. R. Bush, J. M. Cheeseman, E. H. DeLucia, T. W. Jacobs, S. G. Lazarowitz, M. L. Sargent, M. A. Schuler, R. E. Zielinski

*Assistant Professors:* J. K. Conner, S. R. Downie

*Emeritus Professors:* L. R. Hoffman, A. G. Jones

#### GRADUATE DEGREE PROGRAMS

The Department of Plant Biology offers graduate work leading to the master of science and doctor of philosophy degrees. It also participates in an interdepartmental study program leading to a doctoral degree in physiological and molecular plant biology.

Areas of specialization available within the department include anatomy, bioenergetics, biophysics, bryology, circadian rhythms, development, ecology, genetics/molecular biology, mycology, paleobotany, paleoecology, photosynthesis, phycology, physiology, phytochemistry, population biology, systematics, and ultrastructure. Graduate students are expected to acquire reasonable breadth in their botanical backgrounds as well as depth in their areas of specialization. A knowledge of the principles of ecology, genetics/molecular biology, morphology, physiology, and systematics is strongly recommended.

A brochure providing additional information about the department, its facilities, and the research interests of its faculty is available from the associate head upon request.

#### ADMISSION

All applicants for admission are considered on an individual basis. While departmental requirements do not specify particular courses as prerequisites for admission, applicants should have had some undergraduate training in botany or biology and related sciences. Graduate Record Examination scores are required. Graduate College admission requirements also apply.

#### MASTER OF SCIENCE

Candidates for the M.S. degree are expected to complete at least 8 units of course work and research agreed upon with a faculty adviser. A

thesis may be required at the option of the candidate's adviser. The master's degree program is normally completed within two years.

#### DOCTOR OF PHILOSOPHY

Candidates for the Ph.D. are expected to complete 8 additional units of graduate work and research under the supervision of a faculty adviser. A formal evaluation of the student's academic progress is made at the end of his or her second year of study. Departmental approval must be obtained at this juncture in order to continue in a graduate degree program.

A preliminary examination is taken during the second year (if the student entered with an M.S. degree), or the third year (if the student entered with a B.S. degree). This consists of an oral examination of general knowledge in three of the five areas of specialization in plant biology (defined by the department as ecology/genetics or molecular biology; physiology or biochemistry; anatomy or development; and systematics or evolution), which are chosen by the student; and defense of a written proposal on the thesis research topic prepared by the student.

The final phase of the program consists of preparing a thesis, which is based on original research work and which demonstrates a thorough knowledge of theory and techniques in one area of plant biology.

#### OUTSTANDING FACILITIES

Outstanding teaching and research laboratories encompass both molecular and organismal plant biology and are complemented by growth-chamber facilities, environmentally controlled greenhouses, an excellent herbarium, a paleobotanical center for collections, and a diversity of field sites.

#### FINANCIAL AID

Fellowships, teaching assistantships, and research assistantships are available for qualified students. A student who is awarded a fellowship may apply to have the stipend augmented with a part-time teaching or research assistantship.

#### LINGUISTICS

(Including African Languages: Afrikaans, Bambara, Hausa, Lingala, Swahili, Wolof, Yoruba, and Zulu; Arabic, Hebrew, Hindi-Urdu, Persian (Farsi), and Sanskrit)

*Head of the Department:* Elmer H. Antonsen

*Correspondence and Information:* Head, Department of Linguistics, University of Illinois at Urbana-Champaign, 4088 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-3563; FAX: (217) 333-3466; EMAIL: deptling@uiuc.edu

#### GRADUATE FACULTY

*Professors:* P. J. Alfonso, E. H. Antonsen, D. E. Baron, W. C. Blaylock, E. G. Bokamba, G. Browne, C. C. Cheng, G. Dell, W. B. Dickerson, P. A. Gaeng, G. M. Green, H. H. Hock, B. B. Kachru, Y. Kachru, C. W. Kim, C. W. Kisseberth, C. Kramarac, D. P. Kuehn, F. K. Lehman, H. MacLay, J. W. Marchand, J. L. Morgan, G. L. Tikku, L. Zgusta.

*Associate Professors:* L. F. Bouton, J. R. Cowan, F. Y. Gladney, R. S. Hart, J. I. Hualde, F. M. Jenkins, D. Kibbe, M. Mack, J. Packard, R. Pandharipande, W. T. Pitard

*Assistant Professors:* F. Cassimjee, J. Cole, C. Fisher, S. Fujii, S. Garnsey, S. Gonzo, N. P. Markee, D. Chirita-Vogel, J. H. S. Yoon, A. Zucchi

*Emeritus Professors:* K. O. Aston, C. L. Dawson

#### GRADUATE DEGREE PROGRAMS

The Department of Linguistics offers graduate programs leading to the master of arts and doctor of philosophy degrees. Work toward these degrees is divided into two major areas. General linguistics includes historical linguistics, phonology, semantics, and syntax. Applied linguistics covers experimental phonetics, language acquisition, lexicography, psycholinguistics, sociolinguistics, and stylistics. Other areas of concentration are artificial intelligence, cognitive science, and computational linguistics, as well as area linguistics (with concentration in African; Germanic; Romance; Semitic; and South, West, or East Asian linguistics, etc.). Work in these areas may be done under general or applied linguistics. For an application and more detailed information on departmental programs, offerings, admission, degree requirements, and financial aid, write to the above address.

#### ADMISSION AND ADVISING

Undergraduate preparation for the study of linguistics at the graduate level should include the study of at least one foreign language; courses equivalent to Linguistics 210, 300, and 301 at this University; and a

broad background in the humanities, social sciences, and mathematics. Graduate College admission requirements apply. The coordinator of graduate studies acts as adviser for new students. As students progress in their studies, they select their own adviser according to their individual needs and interests.

#### MASTER OF ARTS IN GENERAL OR APPLIED LINGUISTICS

The aim of the master's program is to instruct students in the major areas of linguistic theory and the methods of linguistic analysis. Candidates for this degree must earn at least 10 units with a minimum grade-point average of 4.0 ( $A = 5.0$ ) and satisfy other department and Graduate College requirements. Those concentrating on the general program are required to take Linguistics 307, 310, 340, 401, 402, 441, 442, and 3 units of electives. The applied program requires Linguistics 325, 340, 350, 401, 402, 441, 442, and 3 units of electives. Electives may not contain more than 1 unit of Linguistics 490. In addition, students must have proficiency in one language (other than their native tongue) that has a significant body of linguistic literature and must pass the qualifying examination. Instead of taking the examination, students wishing to obtain a terminal M.A. degree may write an acceptable M.A. thesis under Linguistics 490, for 1 unit in addition to the 10-unit course requirement (for a total of 11 units).

#### DOCTOR OF PHILOSOPHY IN GENERAL OR APPLIED LINGUISTICS

Admission to candidacy for the Ph.D. requires a grade-point average of 4.5 or better for all graduate work in linguistics, distinction in passing the qualifying examination, achieving a grade of B or better in each of two courses in an approved sequence not covered by the qualifying exam, and submitting an acceptable original research paper that meets professional standards. In deciding whether students will be admitted to the Ph.D. program, the examination and student evaluation committee considers their performance in meeting these requirements, as well as their general potential for doing advanced linguistic research.

Candidates for the Ph.D. must complete at least 26 units of graduate work, or 16 units beyond the master's degree. The minimum 26 units must include the course requirements listed above for the master's degree (or their equivalent), advanced courses as required for the area of specialization, and 8 units of thesis research. Candidates must also demonstrate proficiency in a language that is neither their native tongue nor the same language as that used to satisfy the first foreign language requirement. Students are encouraged to attend at least one summer session of the Linguistic Institute of the Linguistic Society of America. Up to 2 units of credit granted under this program may be transferred. Candidates are required to take the preliminary examinations (written and oral) after completion of 8 units beyond the master's level and to present a talk at a meeting of the Linguistics Seminar. Before presenting their final dissertation defense, students are required to demonstrate familiarity with a non-Western language to ensure familiarity with the linguistic structure of a language substantially different from those routinely discussed in required courses.

#### FINANCIAL AID

Approximately 90 percent of the graduate students in the department receive financial aid, either through the department or through other units in the University, in the form of fellowships, teaching assistantships, research assistantships, or departmental assistantships. New applicants receive automatic consideration for financial aid within the department, including teaching assistantships for the non-Western languages taught in its programs. For details and applications, write to the above address.

### MATERIALS SCIENCE AND ENGINEERING

Head of the Department: J. Economy

Associate Head: J.F. Young

Correspondence and Information: Head, Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, 1304 West Green Street, Urbana, IL 61801; (217) 333-8312

#### GRADUATE FACULTY

Professors: C. J. Altstetter, R. S. Averbach, H. K. Birnbaum, S. D. Brown, H. Chen, S. Danyluk, J. Economy, G. Erlich, R. J. Gaylord, P. H. Geil, M. Gibson, J. E. Greene, K. Kim, F. V. Lawrence, J. Mazumder, R. Nuzzo, D. A. Payne, T. J. Rowland, K. Schweizer, S. I. Stupp, C. M. Wayman, R. P. Wool, J. F. Young

Associate Professors: S. Granick, W. M. Kriven, I. Robertson, A. Rockett, C. P. Wirtz

Assistant Professors: J. Abelson, J. Adams, L. Allen, D. Cahill, J. Kieffer, J. Lewis, D. Viehland

Adjunct Professors: R. Benedek, S. Bhagwat, A. Kumar, D. Wilcox, A. Zangvil

Emeritus Professors: P. A. Beck, M. Berg, R. L. Berger, C. Bergeron, R. W. Bohl, R. Cook, E. Eckel, J. Nelson, F. Tooley, C. A. Wert, W. Williams, T. Willmore

#### GRADUATE DEGREE PROGRAMS

The Department of Materials Science and Engineering offers graduate work leading to the master of science and doctor of philosophy in materials science and engineering and the master of science in ceramic engineering. The student body and the faculty have widely varied backgrounds in science and engineering. Faculty members are carrying out research in many different areas, and students may choose to specialize in various aspects of materials science and engineering, including ceramics, metals, polymers, and electronic materials.

#### ADMISSION

Graduate students have undergraduate degrees in a number of scientific and engineering disciplines. Admission to graduate study is based on undergraduate performance and letters of reference. A minimum grade-point average of 4.0 ( $A = 5.0$ ) is required for admission, but because of space limitations applicants with a GPA of less than 4.5 are seldom admitted. All applicants must submit scores from the general aptitude tests of the Graduate Record Examination: verbal, quantitative, and analytical. Applicants whose native language is not English must submit results of the Test of English as a Foreign Language (TOEFL). A minimum of 575 is required for admission to the graduate program. International students are expected to be proficient in English.

#### MASTER OF SCIENCE

A candidate for the master of science degree must complete a minimum of 8 units of graduate work, including a thesis. A 9-unit, nonthesis degree is also available for students who do not hold a research assistantship. Course work includes graduate courses in the student's area of concentration (e.g., metals, polymers, ceramics, or electronic materials), as well as in other areas of materials science and engineering. There are specific requirements for different areas of concentration in addition to the general departmental requirements. Contact the department for details. A minimum GPA of 4.0 is required for graduation.

#### DOCTOR OF PHILOSOPHY

The Ph.D. degree requires, in addition to the requirements for the M.S. degree, 6 units of course work, including courses on the statistical thermodynamics of materials and the kinetic processes in materials, and 10 units of thesis credit. A minimum GPA of 4.0 must be maintained for graduation. Course work will include graduate courses in the student's area of concentration, in other materials areas, and in other subjects in science and engineering. There may be additional requirements for different areas of concentration in addition to the general departmental requirements. Contact the department for more details regarding these requirements.

Students must pass the written departmental qualifying examinations covering the subjects of classical and statistical thermodynamics and kinetics, as well as meet additional requirements in the student's area of concentration. This must be taken no later than the beginning of the fourth semester after entering the graduate program with a B.S. degree or the beginning of the third semester after entering with an M.S. degree. A preliminary examination covering the student's thesis research is also required. This examination consists of a brief written research proposal and an oral presentation by the student to a committee of faculty members. This committee will be available for consultation with the student throughout the course of thesis research and will then serve on the student's Ph.D. final examination committee. Students must present a satisfactory research thesis and successfully defend it in a final examination.

#### FINANCIAL AID

Graduate students may be supported by research assistantships, fellowships, teaching assistantships, and waivers of tuition and service fees.

## MATHEMATICS

*Chair of the Department:* Gerald J. Janusz

*Director of Graduate Studies:* Richard Jerrard

*Correspondence and Information:* Director of Graduate Studies, Department of Mathematics, University of Illinois at Urbana-Champaign, 259 Allard Hall, 1409 West Green Street, Urbana, IL 61801; (217) 333-5749

### GRADUATE FACULTY

*Professors:* S. B. Alexander, I. D. Berg, E. R. Berkson, B. C. Berndt, R. L. Bishop, J. Bourgain, P. G. Braumfeld, D. L. Burkholder, R. W. Carroll, R. F. Craggs, E. C. Dade, J. P. D'Angelo, H. G. Diamond, E. G. Evans, Jr., R. M. Fossum, G. K. Francis, Z. Furedi, J. W. Gray, D. R. Grayson, P. A. Griffith, W. J. Haboush, W. R. G. Haken, H. Halberstam, M. E. Hamstrom, L. L. Helms, C. W. Henson, A. Hildebrand, A. Hinkkanen, G. J. Janusz, R. P. Jerrard, C. G. Jockusch, F. W. Kamber, R. P. Kaufman, P. A. Loeb, H. P. Lotz, L. R. McCulloh, L. McLinden, J. B. Miles, I. Nikolaev, J. I. Palmore, N. T. Peck, A. L. Peressini, W. V. Philipp, H. A. Porta, R. R. Rao, B. A. Reznick, D. J. S. Robinson, J. J. Rotman, P. E. Schupp, K. B. Stolarsky, W. F. Stout, M. Suzuki, G. Takeuti, P. M. Tondeur, J. J. Uhl, Jr., S. V. Ullom, L. Van den Dries, P. M. Weichsel, D. West, J. E. Wetzel, J. M. Wu

*Associate Professors:* P. Aviles, A. Babakhanian, L. L. Dornhoff, S. Dutta, D. Monrad, R. G. Muncaster, P. K. Newton, H. Paley, E. G. Portnoy, Z.-J. Ruan, D. R. Sherbert, A. Tumanov, E. C. Weinberg

*Assistant Professors:* M. J. Bergvelt, N. Boston, S. B. Bradlow, K. Ding, N. Firoozee, E. W. Gray, S. Ivanov, R. Jerrard, R. McCarthy, M. Nicolaou

*Emeritus Professors:* F. R. Albrecht, J. R. Alexander, K. I. Appel, R. Ash, P. T. Bateman, J. L. Doob, S. I. Goldberg, R. Langebartel, D. E. Muller, H. A. Osborn, I. M. Reiner, L. A. Rubel, E. Scott, T.-W. Ting, J. H. Walter, W. Zaring

### GRADUATE DEGREE PROGRAMS

The department offers graduate study leading to the master of science (or of arts) in mathematics, the doctor of philosophy in mathematics, the master of science in applied mathematics, and the master of science in the teaching of mathematics.

### ADMISSION

Graduate College admission requirements apply. Students may be admitted with full standing if they hold a strong undergraduate degree in mathematics and a grade-point average of 4.25 (A = 5.0). Students whose undergraduate training in mathematics is deficient may be admitted with deficiencies to be removed during the first year of graduate study.

### MASTER'S DEGREE PROGRAMS

The master's degree programs can be completed in a year plus a summer or in one and one-half years of full time study by students entering without deficiencies. Students entering with deficiencies may require two years to complete the degree. There are no thesis or language requirements, and no comprehensive examination is required. These programs may be revised; students are advised to check with the director of graduate studies.

The master's degree in mathematics requires a total of 8 units, of which 3 must be at the 400 level in mathematics. The master's degree in applied mathematics requires 8 units, of which 2 must be at the 400 level in mathematics. Specific course and sequence requirements for this degree can be satisfied through study in one of three options: (1) optimization and algorithms, (2) science applications, or (3) actuarial science.

The master's in the teaching of mathematics requires 8 units, of which 4 must be in mathematics and 2 in education. Specific course and sequence requirements must be met.

### DOCTORAL DEGREE PROGRAM

Students working toward a Ph.D. degree usually require from four to six years to complete the requirements. Each student must pass the comprehensive examinations (testing the student's knowledge of basic graduate-level mathematics in algebra, analysis, and one other area) and the preliminary examination (testing the student's ability to begin or continue research in a chosen field). Students must also write and defend a research thesis in their field of mathematics. A reading knowledge of two of the following languages (excluding the student's native language) is required: English, French, German, Russian.

## FINANCIAL AID

Financial aid is available in the form of teaching assistantships, research assistantships, and fellowships. The same application is used for decisions on admission, assistantships, and fellowships. The deadline for equal consideration for fellowships and assistantships is February 15, but later applications for assistantships will be considered if positions are available. Students may be admitted without financial aid until a month before classes start.

## MECHANICAL AND INDUSTRIAL ENGINEERING

*Head of the Department:* A. L. Addy

*Associate Heads of the Department:* A. M. Clausung and J. E. Peters

*Graduate Policy Committee Chairperson:* J. S. Walker

*Correspondence and Information:* Celia G. Snyder, Graduate Programs Coordinator, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, 140 Mechanical Engineering Building, 1206 West Green Street, Urbana, IL 61801; (217) 333-4390

### GRADUATE FACULTY

*Professors:* A. L. Addy, M. Q. Brewster, R. O. Buckius, C. W. Bullard, J. C. Chato, A. M. Clausung, H. E. Cook, C. Cusano, P. A. DeLisle, R. E. DeVor, J. C. Dutton, S. G. Kapoor, H. Krier, C. S. Larson, J. S. Lieberman, J. Mazumder, C. O. Pedersen, J. E. Peters, H. Sehitoğlu, D. F. Socie, S. L. Soo, C. L. Tucker, S. P. Vanka, J. S. Walker, R. A. White

*Associate Professors:* D. N. Assanis, J. Bentsman, J. A. Dantzig, W. E. Dunn, P. M. Ferreira, J. G. Georgiadis, R. E. Klein, R. P. Lucht, N. R. Miller, T. A. Newell, J. W. Nowak, S. Palekar, A. J. Pearlstein, P. M. Sanderson, B. G. Thomas, T.-C. Tsao

*Assistant Professors:* A. G. Alleyne, A. M. Jacobi, M. A. Johnson, P. M. Jones, T. J. Mackin, M. L. Philpott, N. V. Sahniidis, M. A. Shannon, D. A. Tortorelli, A. V. Fvakakis

### GRADUATE DEGREE PROGRAMS

The Department of Mechanical and Industrial Engineering offers studies leading to the master of science in mechanical engineering, the master of science in industrial engineering, the doctor of philosophy in mechanical engineering, and the doctor of philosophy in industrial engineering. Details outlining specific degree requirements are included in brochures available from the graduate programs coordinator, whose address is listed above.

### RESEARCH AREAS

Research in the Department of Mechanical and Industrial Engineering is broadly based, following the traditional disciplines of mechanical engineering and industrial engineering on the one hand and encompassing areas that are at the cutting edge of the profession on the other. The activities reflect not only the interests and creativity of our faculty and students, but also their responsiveness to societal problems. While the generation of new knowledge remains a basic function, a number of ongoing research projects have been prompted by the current needs of the state of Illinois and of the nation. Current studies are conducted in combustion; computer-aided design; control systems; electromechanical systems; fluid mechanics; gas dynamics; heat and mass transfer; kinematics and dynamics of machinery; knowledge-based engineering expert systems; manufacturing systems; materials behavior; materials processing; multiphase flow; propulsion; system simulation and optimization; and tribology. Problems in energy systems include air pollution, combustion, energy logistics, internal-combustion engines, propulsion, solar and renewable energy, and waste handling. Progress in the study of materials behavior and processing includes casting processes, composite materials, creep, fatigue, fracture, high-temperature material behavior, laser processing, polymer processing, ceramic-matrix composites, and thin films. Tribology studies include elastohydrodynamics and lubrication of oil and refrigerant mixtures. In industrial engineering, studies are conducted in human factors and engineering psychology, operations research, and production engineering. Study in the areas of cognitive engineering, computer-aided manufacturing, ergonomics, facilities planning, human-machine interaction, large-scale systems analysis, machine tool systems design, mathematical programming and optimization, production planning and control, and project management is aimed at improving the design and implementation of integrated systems of persons, materials and equipment.

The department has a strong commitment to interdisciplinary research and works closely with other departments: the Department of Aeronautical and Astronautical Engineering in the fields of aerodynamics and combustion; the Department of Agricultural Engineering



in petroleum and nonpetroleum fuels; the Department of Electrical and Computer Engineering in controls; the Department of Materials Science and Engineering in materials properties and processing; and the Department of Psychology in ergonomics and human factors engineering. Cooperation with the Department of Bioengineering faculty, the Coordinated Science Laboratory, and the Materials Research Laboratory also lends diversity to our research.

The department has several center-based research activities including two NSF industry/University cooperative research centers: one in air conditioning and refrigeration, and one in machine tool systems. The University of Illinois is also the lead institution in the newly formed NSF/ARPA Agile Manufacturing Research Institute for Machine Tools. In addition, the department has the Center for Laser Materials Processing and the Institute for Competitive Manufacturing.

Research facilities include laboratories for advanced automation, air conditioning and refrigeration, combustion, computer-aided design and simulation, computer-integrated manufacturing, control systems, design for manufacturing, flexible automation, gas dynamics, heat transfer, human factors and simulation of human-machine interaction, internal-combustion engines, knowledge-based engineering systems, laser diagnostics for combustion, laser processing, machining and machine tool systems, mechanical behavior of materials, metrology, operations research, precision engineering, polymer and composite materials processing, propulsion, rapid prototyping, robotics, solar energy, thermal processing of materials, thermodynamics, tribology, vehicle dynamics, and welding and heat treatment. Special facilities include 1/2-acre solar pond, test facilities for refrigeration and air-conditioning systems and components, low- and high-speed wind tunnels, and laboratories for study of combustion, radiation, particulate and multiphase flow, complete specimen-scale mechanical testing equipment including an environmental testing chamber, thermomechanical and multiaxial loading capabilities, and laser processing facilities. The department has a construction shop with instrument makers and electronics technicians.

#### ADMISSION

An applicant for admission to the Department of Mechanical and Industrial Engineering must (1) be a graduate of an institution awarding a baccalaureate degree equivalent to that granted by the University of Illinois at Urbana-Champaign; (2) be adequately prepared for advanced study as demonstrated by his or her previous program of study and scholastic record; and (3) be recommended for admission by the Department of Mechanical and Industrial Engineering. An unofficial minimum grade-point average of 4.25 (A = 5.0) for the last 60 hours of undergraduate study is required. Scores on the Graduate Record Examination general test are required of all applicants. There is no language requirement. The department requires a minimum TOEFL score of 607 for those applicants who have not completed at least two years of full-time study in an institution in a country where English is the primary language, and in a school where English is the primary language of instruction. Based upon the previous preparation of the student, prerequisite courses may be specified by the adviser, but the credit may not be applied toward a degree.

#### MASTER OF SCIENCE

A total of 8 units is required, of which 6 units are formal graded course work (including 2 units at the 400 level) and 2 units, minimum, are thesis credit. For those students terminating their studies with the M.S. degree, a nonthesis option is available by departmental petition. Those pursuing the nonthesis option are required to complete a minimum of 8 units of formal graded course work (including 2 units at the 400 level) plus 1 unit of a 400-level independent investigations course since each student is required to show evidence of the ability to do independent research.

#### DOCTOR OF PHILOSOPHY

For those students entering the program with a master's degree, a total of 8 units of formal graded course work (including 4 units at the 400 level) is required in addition to 8 units, minimum, of thesis credit. Qualifying examinations are required and should be taken no later than the second calendar semester after initial enrollment.

A student entering with a bachelor's degree has the option of a direct Ph.D. program. A total of 14 units of formal graded course work (including 6 at the 400 level) is required in addition to 10 units, minimum, of thesis credit. Qualifying examinations should be taken as soon as possible.

For both Ph.D. options, the preliminary examination is taken after the qualifying examination. A minimum of six months should elapse between the successful completion of the doctoral preliminary examination and the doctoral final oral dissertation defense.

#### FINANCIAL AID

Financial assistance is available to most students who are admitted and includes fellowships, assistantships, and/or waivers of tuition and fees. Assistantship stipends vary with one's entry level into the program.

### MEDICAL SCHOLARS PROGRAM

*Correspondence and Information:* Coordinator, Medical Scholars Program, College of Medicine, University of Illinois at Urbana-Champaign, 190 Medical Sciences Building, 506 South Mathews Avenue, Urbana, IL 61801

#### GRADUATE DEGREE PROGRAMS

The Medical Scholars Program at the Urbana-Champaign campus enables students to combine the study of medicine leading to the M.D. with graduate or professional study in a second field leading to the Ph.D. or J.D. The program seeks to produce leaders uniquely qualified and motivated to address the issues shaping modern medical practice, the health care system, and biomedical research; issues related to the profound advances in science and technology; and those that arise from the pressures of socioeconomic forces.

#### ADMISSION

To enter the Medical Scholars Program (MSP), applicants must meet the admission requirements of, and be accepted by, both the College of Medicine and the graduate unit of their choice. Prospective students must demonstrate a potential for creativity and original research, a sense of social awareness and service, academic excellence, competence in leadership and in interpersonal relationships, and an appropriate rationale for their interest in combined study. Application is made to the program and to the graduate unit by means of the Medical Scholars Program application form. Application is made to the University of Illinois College of Medicine through the AMCAS application system sponsored by the Association of American Medical Colleges. The Medical College Admissions Test (MCAT) is required for admission to medical school, and examination scores such as those for the GRE, GMAT, or LSAT are required by some departments. Applicants must arrange to take such examinations and have the scores forwarded to the appropriate academic unit on the Urbana-Champaign campus. All U.S. citizens and permanent residents are eligible to apply. State residency is not a factor.

#### APPROVED AREAS OF SPECIALIZATION

The University offers graduate study in more than 100 fields in which MSP applicants may propose combined-degree study, including the following established programs:

Animal Sciences	Anthropology
Architecture	Biochemistry
Biophysics	Business Administration
Cell and Structural Biology	Chemical Engineering
Chemistry	Civil Engineering
Communications Research	Community Health
Computer Science	Economics
Education	Electrical and Computer Engineering
English	Environmental Studies
Entomology	Food Science
Finance	Human Development and Family Studies
History	MBA
Kinesiology	Mathematics
Law	Microbiology
Materials Science and Engineering	Music
Mechanical and Industrial Engineering	Nuclear Engineering
Molecular and Integrated Physiology	Philosophy
Neuroscience	Political Science
Nutritional Sciences	Speech Work
Physics	Speech Communication
Psychology	Theoretical and Applied Mechanics
Sociology	
Speech and Hearing Science	
Veterinary Biosciences	
Veterinary Pathobiology	

#### SPECIAL FEATURES OF THE PROGRAM

The Medical Scholars Program stands out from other M.D./Ph.D. programs in its size (up to 25 students are admitted annually; more than 150 are currently enrolled) and in the range of second degree disciplines offered (students have enrolled in more than forty differ-

ent graduate programs). Located in the heart of the University of Illinois at Urbana-Champaign campus, the MSP offers graduate programs in any discipline within the biological and physical sciences, as well as in the social sciences, humanities, and law.

#### REQUIREMENTS

Students in the Medical Scholars Program are expected to fulfill all the degree requirements of both the College of Medicine and the second discipline. Faculty advisers from the medical school and from the graduate unit help students set realistic long-term study plans that integrate the two curricula.

#### FINANCIAL AID

Currently, all Medical Scholars receive financial support for the duration of both their medical studies and their graduate studies. The vast majority of MSP students is assured waivers of tuition and some fees, as well as stipends. In general, financial support is provided by the graduate department in the form of assistantships, which vary in amount, depending on the time involved and the department. Medical Scholars may also earn fellowships and other awards for additional or alternative support.

### MUSIC

#### (Including Music Education and Musicology)

*Director of the School:* Don V. Moses

*Correspondence and Information:* Office of Graduate Studies, School of Music, University of Illinois at Urbana-Champaign, 2136 Music Building, 1114 West Nevada Street, Urbana, IL 61801; (217) 333-3189

#### GRADUATE FACULTY

*Professors:* R. Alexander, J. Beauchamp, E. Boardman, F. Crawford, E. Dalheim, N. Di Virgilio, K. Drake, M. Dunn, M. Elyn, L. Gushee, R. Hedlund, W. Heiles, J. Hill, I. Hobson, M. Hoffman, J. Keene, H. Kellman, S. Martinano, J. Melby, D. Moses, A. Murray, B. Netti, D. Peters, P. Schaffer, T. Siwe, S. Stone, N. Temperley, S. Tipei, J. Wustman, S. Wyatt, P. Zonn

*Associate Professors:* C. Alwes, W. Brooks, Z. Browning, M. Cameron, C. Capwell, E. Chasanov, M. Ewald, J. Grant, J. Grashel, D. Harris, L. Laufman, K. Machala, M. Moore, D. Richtmeyer, R. Sasaki, F. Stoltzfus, T. Turino, H. Von Gunden, T. Ward

*Assistant Professors:* O. Davis, A. DeGrado, F. Fairchild, P. Griffin, E. Harwood, N. King, K. Klippstatter, E. Lund, S. Lupu, T. McGovern, D. Sheldon

#### GRADUATE DEGREE PROGRAMS

The School of Music offers graduate study leading to the master of music, doctor of musical arts, doctor of philosophy in musicology, master of science in music education, doctor of education in music education, and the advanced certificate in music education. Complete details of these programs may be found in the school's brochure on graduate study in music.

### Research and Professional Curricula

#### MASTER OF MUSIC

The fields of specialization for the M.Mus. degree are musicology, music theory, composition, performance and literature (piano, organ, voice, orchestral instruments), choral music, instrumental conducting, vocal accompanying and coaching, and group piano pedagogy.

*Admission.* Requirements for admission are a bachelor of music degree from the University of Illinois at Urbana-Champaign or an equivalent degree from another accredited institution (students holding other degrees may be admitted but will be expected to make up any deficiencies). Those majoring in musicology are generally expected to have a minimum grade-point average of 4.25 ( $A = 5.0$ ). Applicants in performance and literature must pass a qualifying audition before their major division or submit satisfactory recordings. Applicants in musicology, theory, or composition must present writings or other evidence of their ability to pursue work at the graduate level.

*Language Requirements.* Applicants in voice are required to have had one year each of college-level French, German, and Italian. Applicants in other applied music areas and in theory and composition are required to have had one year of any language at the college level. Applicants in musicology must give evidence of a reading knowledge of French or German. Students who are otherwise admissible may satisfy any language deficiencies concurrently with graduate studies.

*Degree Requirements.* Candidates for the M.Mus. degree in theory-composition and in performance and literature must earn at least 8 units, including 2 units at the 400 level in their major field and 1 unit in problems and methods. Candidates in performance and literature must earn 2 units in the music literature course in their major applied area. Candidates in musicology must earn 2 units in introduction to musicology and 2 units in the seminar in musicology. Electives in music theory, history and literature, and other music and nonmusic courses will be chosen in consultation with the candidate's graduate adviser. Each candidate for the M.Mus. must participate in an ensemble during two of the terms of study. A graduate recital is required of all candidates in performance and literature. Candidates in musicology and theory must write a thesis, for which 2 units of credit are given. Candidates in composition must present a portfolio of their works for approval by the composition faculty.

#### DOCTOR OF MUSICAL ARTS

The fields of specialization for the D.M.A. degree are composition, piano, organ, choral music, voice, and orchestral instruments.

*Admission.* Prerequisites for admission are the following: (1) the M.Mus. degree from the University of Illinois at Urbana-Champaign, or an equivalent degree from another accredited institution, with a major in one of the areas of specialization listed above; (2) a high level of proficiency in composition or performance; candidates in composition must submit original scores for review, and candidates in performance and literature must pass a qualifying audition or submit satisfactory recordings; (3) appropriate experience in ensemble performance and/or score reading; (4) the successful completion of approximately 32 semester hours (or the demonstration of an equivalent background) in the liberal arts and sciences, including a minimum of 6 hours in history and 6 hours in literature and philosophy; candidates in voice must have fulfilled all foreign language requirements considered prerequisites for the M.Mus. degree.

*Degree Requirements.* Candidates must earn a minimum of 16 units beyond the requirements for the master's degree. The program is worked out in consultation with the student's graduate adviser in terms of special needs, interests, and abilities; it will ordinarily include a minimum of 3 units in the major field of specialization, 2 units in advanced music literature courses, and 2 units in a minor field. Candidates take a preliminary examination once they complete all course work.

*Language Requirements.* All candidates will be required to demonstrate proficiency in at least one language other than English. Each division may specify which language is required or may require proficiency in more than one language. Language requirements can be satisfied by evidence of two years of undergraduate study, by successful completion of a two-semester, 400-level reading course, or by satisfactory test scores.

*Doctoral Project and Thesis.* In the fields of composition and of performance and literature, 6 units are devoted to a special doctoral project. Composers must produce a large-scale original score. Performers must demonstrate comprehensive repertory study in the form of two solo recitals or one solo recital and two of the following options: performing a concerto, a major operatic or oratorio role, or a chamber music program; giving a lecture-recital; or preparing and, when appropriate, conducting a concert by an instrumental or vocal ensemble. Those majoring in one of the string instruments must also present a recital of chamber music. In addition, both fields have a research requirement that serves in lieu of a thesis. In the field of choral music, 1 unit is given for the preparation and presentation of a one-hour program representative of a comprehensive repertory, and 4 units are devoted to the writing of a thesis.

#### DOCTOR OF PHILOSOPHY IN MUSICOLOGY

The Ph.D. in musicology is intended for those whose interests lie in research in the history of music, systematic musicology, or ethnomusicology.

*Admission.* Prerequisites for admission are (1) the M.Mus. degree in musicology from the University of Illinois at Urbana-Champaign or an equivalent degree from another accredited institution; (2) a minimum of 32 semester hours in the liberal arts and sciences, usually including general history, philosophy, and literature.

*Degree Requirements.* A minimum of 16 units must be earned beyond the requirements for the master's degree, including at least 2 units in the seminar in musicology. Although no formal outside minor is

required, students are expected to take courses in fields outside music that are appropriate to the proposed area of their research. A preliminary examination is taken after all course work is completed.

**Language Requirements.** Proficiency is required in German and at least one other language, depending on the proposed field of specialization. This requirement can be satisfied by evidence of two years of undergraduate study, by completion of a two-semester, 400-level reading course with a grade of at least B, or by satisfactory test scores.

**Thesis.** Usually, 8 of the total of 16 units are devoted to the writing of an original doctoral thesis.

## Musical Education Curricula

### MASTER OF SCIENCE IN MUSIC EDUCATION

An applicant for admission must hold a bachelor's degree in music education with an admission average of at least 4.0. Candidates for this degree must earn a minimum of 4 units in music courses, 2 units in education courses, and 2 units of electives. One of the 4 units in music courses must be in music education. All students pursuing this degree must complete placement examinations in music history and theory and in their major performing medium during the registration period of their first term in residence. Each candidate for the M.S. must participate in an ensemble during two of the terms of study. A thesis is not required. A full-time student can complete this program in one academic year or four summer sessions. The residence requirement may be fulfilled by one semester and one summer or by three summers of full-time study.

### ADVANCED CERTIFICATE IN MUSIC EDUCATION

This program, designed to provide advanced professional preparation for music educators, requires a minimum of one year of graduate study beyond the master's degree.

**Admission.** A candidate for admission must hold a master's degree in music or music education and must have satisfactorily completed two years of professional employment in music education. During the student's first registration period, placement examinations are administered in music history, music theory, and applied music.

**Program.** A minimum of 8 units beyond the master's degree is required, including 1 unit in music education courses and 1 unit in educational psychology.

### DOCTOR OF EDUCATION IN MUSIC EDUCATION

This program, offered jointly by the School of Music and the College of Education, is designed to develop leaders in music education with a high level of musical, intellectual, and professional competence.

**Admission.** An applicant for admission must hold a master's degree with a major in music, music education, or a related academic discipline acceptable to the Graduate Committee for Music Education. Admission is determined by examinations in music history, music theory, music education, and applied music; personal interviews; records of previous education and experience; and recommendations from persons who have known the applicant. A report of the applicant's score on the Miller Analogies Test should accompany the application for admission.

**Program.** At least 16 units of work beyond the master's degree are required, including 6 units in music courses and 6 units in education courses. No more than 2 units of credit in applied music may be counted toward the degree. A thesis is required; it may be in the area of improving professional practice and may be a field study. The residence requirement may be fulfilled either by full-time study in two consecutive semesters or by full-time study in one semester, a contiguous summer session, and one additional summer session.

### FINANCIAL AID

Fellowships, teaching and research assistantships, and tuition and service fee waivers are awarded on a one-year basis with continuation dependent upon success in the program. Specific information on application procedures is available from the Graduate Office, School of Music.

## NUCLEAR ENGINEERING

Head of the Department: Barclay G. Jones

Correspondence and Information: Department of Nuclear Engineering, University of Illinois at Urbana-Champaign, 214 Nuclear Engineering Laboratory, 103 South Goodwin Avenue, Urbana, IL 61801-2984; (217) 333-3598

### GRADUATE FACULTY

Professors: R. A. Axford, B. G. Jones, K. Kim, G. H. Miley, D. N. Ruzic,

C. E. Singer, J. F. Stubbins, R. J. Turnbull  
Associate Professors: S. Landsberger, M. Ragheb  
Assistant Professors: B. J. Heuser, X.-L. Zhou

### GRADUATE DEGREE PROGRAMS

The Department of Nuclear Engineering offers work leading to master of science and doctor of philosophy degrees.

### ADMISSION

Application for admission to the M.S. and Ph.D. programs is open to all graduates in engineering, mathematics, and the physical sciences with an average grade of B or better for the last 60 hours of undergraduate work and any graduate work completed. Prerequisites for admission include a course in ordinary differential equations plus one other mathematics course beyond calculus; an intermediate course in atomic physics; a course in electrical circuit theory; a course in thermodynamics; and a course either in fluid mechanics or in continuum mechanics. A student may be admitted before completion of these prerequisites, but he or she must allow additional time for making up these deficiencies; courses taken to make up such deficiencies will not count toward the number of units required for the degree. Transcripts are required; letters of recommendation and information such as undergraduate class rank are recommended. International students must demonstrate proficiency in English, as measured by the TOEFL and SPEAK (Speaking Proficiency English Assessment Kit) tests, with minimum scores of 550 and 230, respectively. They may be required to take courses in English as a second language, as determined by English placement tests taken on campus.

### MASTER OF SCIENCE

The M.S. degree takes at least two semesters and a summer session to complete and normally takes three semesters and a summer session; 8 units of graduate work are required, including an M.S. thesis. The curriculum requires courses covering the fundamentals of nuclear engineering, plus two or more courses in an area of concentration chosen by the student in consultation with an adviser. Typical areas include fission systems, fusion systems, reactor physics, plasma physics, radiation transport, nuclear materials, reactor thermal hydraulics, reactor safety, neutron activation analysis, radioactive waste management, health physics, radiation protection, and superconducting magnet design and development.

### DOCTOR OF PHILOSOPHY

Course requirements for the Ph.D. degree include at least 8 units of course credit beyond that required for the M.S. degree. In addition, 8 or more units of doctoral thesis credit are required and typically take one or more years to complete. Students desiring to work toward the Ph.D. degree must pass the qualifying examination to be admitted to doctoral study. The doctoral candidate must complete course work, pass a preliminary doctoral examination, write a doctoral thesis, and successfully defend the thesis at a final examination. A doctoral student typically takes several courses in nuclear engineering plus additional courses that support a specialized research area and/or provide background in mathematics and science and that satisfy a minor in a related discipline. There is no foreign language requirement. Under exceptional circumstances and by approved petition, doctoral research may be undertaken off campus.

### RESEARCH INTERESTS

Faculty research interests cover a wide range including, but not limited to, those listed above under the master of science section.

### FACILITIES

Several major facilities are available for nuclear engineering research. The versatile Illinois Advanced TRIGA reactor operates at 1.5 megawatts steady state and pulses to 6,000 megawatts peak power. A low-power reactor facility, adjacent to the TRIGA, provides unique coupled-core experimental capabilities. A dense plasma focus fusion-related device for high-temperature plasma studies and an ultrahigh-vacuum laboratory for plasma-material interaction studies are available. The College of Engineering's Materials Research Laboratory and Materials Engineering-Mechanical Behavior program provide a variety of facilities for studies of nuclear materials. Other laboratories are also available for environmental studies and nuclear spectroscopy; health physics and radiation studies; nuclear waste management; thermal hydraulics and reactor safety; reactor physics and reactor kinetics; controlled nuclear fusion; direct energy conversion; lasers and plasma physics; and superconducting magnet design and application. The College of Engineering is a leader in supercomputer research, and the



campus houses one of the National Centers for Supercomputing Applications. The Department of Nuclear Engineering, also has a direct link to the National Magnetic Fusion Computer Center in Livermore, California. In addition, microcomputers are available for student use and are integrated into laboratory courses and for data acquisition.

#### FINANCIAL AID

Fellowships and traineeships are generally available to support the best applicants. Aid in the form of research assistantships and teaching assistantships is available for most other graduate students. Other work of a professional nature can sometimes be found in the University or surrounding community. If the number of students is more than the department can assist financially, support is awarded according to academic merit.

#### NUTRITIONAL SCIENCES

*Director of the Division:* John W. Erdman, Jr.

*Correspondence and Information:* Division of Nutritional Sciences, University of Illinois at Urbana-Champaign, 451 Bevier Hall, 905 South Goodwin Avenue, Urbana, IL 61801; (217) 333-4177

#### GRADUATE FACULTY

*Professors:* D. H. Baker, R. A. Boileau, B. M. Chassy, J. H. Clark, R. A. Easter, J. W. Erdman, Jr., G. C. Fahey, Jr., P. V. Johnston, S. K. Kamath, K. E. Kelley, B. P. Klein, D. K. Layman, R. I. Mackie, N. R. Merchen, R. A. Nelson, T. Nishida, W. D. O'Brien, E. G. Perkins, J. L. Robinson, A. A. Salyers, A. J. Siedler, W. J. Visek  
*Associate Professors:* P. E. Bowen, B. H. Cho, A. S. Hassan, T. F. Hatch, A. K. Hatfield, E. H. Jeffery, R. L. Magin, M. R. Murphy, J. E. Novakofski, R. D. Reynolds, S. J. Schmitt, K. W. Singletary, S. R. Trupin, M. A. Wallig

*Assistant Professors:* B. H. Arjmandi, K. M. Chapman, S. M. Donovan, J. K. Drackley, H. R. Gaskins, R. H. McCusker, J. Odle, S. M. Potter, N. F. Shay, T. L. Smith, R. J. Stillman

*Emeritus Professors:* C. L. Davis, R. M. Forbes, B. L. Larson, S. P. Mistry, E. Sletor

#### GRADUATE PROGRAMS

An interdepartmental graduate training program leading to the master of science in nutritional sciences and the doctor of philosophy in nutritional sciences is offered. The degree requirements are designed to provide sufficient flexibility to enable students to pursue study in one of several areas of specialization within the broad field of the nutritional sciences. These specialties can be classified into five broad theme areas in which our faculty and students are most active: 1) nutritional requirements for optimal growth and well-being of man and animals; 2) impact of nutrition on health and risk of chronic non-infectious disease; 3) relation of nutrients to gene expression; 4) nutrient composition of foods and feeds and the impact of agricultural practices, handling, and processing on food safety and quality; and 5) factors determining food preferences and habits and techniques for guiding consumers in selection of nutritionally adequate diets. These themes best reflect the areas of nutrition research for which the division is recognized both nationally and internationally. The program offers the opportunity for pursuing both the M.D. and Ph.D. degrees in the Medical Scholars Program.

#### ADMISSION AND FINANCIAL AID

Applicants are expected to have an admission grade-point average of 4.0 (A = 5.0) for the last 60 hours of course work and basic courses in nutrition, chemistry, biology, and mathematics. Deficiencies in these subjects must be removed during the first year of graduate study. Financial assistance is available in the form of assistantships and fellowships. Applicants seeking August admission and expecting to be considered for financial assistance should file their applications before the preceding February 15th. Later applications will be considered, depending on the space and support available.

#### MASTER OF SCIENCE

Requirements for the M.S. include courses in general biochemistry, two courses in advanced nutrition, and one semester of seminar. Additional courses are available in such diverse subjects as human and animal nutrition, biochemistry, physiology, immunology, food science, education, anthropology, psychology, sociology, statistics, and agricultural economics. The M.S. degree may be taken with or without a thesis. The minimum M.S. course work requirement is 6 units (plus at least 2 units of thesis credit) for the thesis degree and 9 units for the nonthesis degree.

#### DOCTOR OF PHILOSOPHY

In addition to maintaining a 4.0 average in formal course work, Ph.D. students are required to take an oral preliminary examination and a final thesis examination. There is no foreign language requirement, but students whose native language is not English are required to have competence in English. A minimum of 24 units of credit work beyond the baccalaureate degree is required.

#### PHILOSOPHY

*Acting Chair of the Department:* R. G. Wengert

*Correspondence and Information:* Inquiries and correspondence should be directed, as appropriate, either to the chair, the director of Graduate Studies, or the Admissions and Financial Aid Committee, Department of Philosophy, University of Illinois at Urbana-Champaign, 105 Gregory Hall, 810 South Wright Street, Urbana, IL 61801; (217) 333-2890

#### GRADUATE FACULTY

*Professors:* P. Hayes, A. Melnick, R. D. Mohr, R. L. Schacht, F. F. Schmitt, J. D. Wallace, P. G. Winch

*Associate Professors:* M. W. Baron, H. S. Chandler, P. Maher, T. G. McCarthy, R. J. McKim, J. McMahon, F. W. Neely, W. R. Schroeder, S. J. Wagner, R. G. Wengert

*Assistant Professors:* A. Hance, H. Koegler

*Emeritus Professors:* C. E. Caton, B. J. Diggs, M. H. Fisch, D. S. Shwayder, A. R. Turquette, F. L. Will

#### MASTER OF ARTS

The normal program of graduate study in philosophy is directed toward the Ph.D., but students who wish to work only for the master of arts degree may also be admitted.

*Admission.* The Graduate College admission requirements apply. Applicants need not have done the course work in philosophy expected of applicants to the Ph.D. program, but must show some evidence of aptitude for graduate study in philosophy. Application materials required are the same as those for the Ph.D. program.

*Program Description.* Students in the A.M. program may qualify for the degree by earning at least 8 units of graduate credit with at least a 4.0 grade-point average (A = 5.0), 6 of which must be earned in regular courses; by satisfying a one-year residence requirement; by submitting a substantial essay; and by passing an oral examination on this essay. (There are no area, logic, or foreign language requirements for this degree.) An A.M. degree earned in this way is usually a terminal one. Students admitted to the A.M. program may, however, petition to the department for admission to the Ph.D. program either before or upon completion of their requirements for the A.M. degree. (Students in the Ph.D. program are automatically awarded this degree when they complete the second stage of the Ph.D. program and are not required to submit the substantial essay or to pass the oral examination required for the terminal A.M. degree.)

#### DOCTOR OF PHILOSOPHY

*Admission.* The Graduate College admission requirements apply. In addition, applicants should have had a course in symbolic logic and general courses in the history of ancient and early modern philosophy. Students deficient in these areas may be admitted, but they are required to remedy their deficiencies by taking such courses in their first year. Applicants should also have done some course work in such central areas of philosophical inquiry as ethics and the theory of knowledge. All applications for admission must be supported by three letters of recommendation from persons qualified to comment on the applicant's aptitude for graduate study in philosophy. All applicants are also urged to take the general aptitude portion of the Graduate Record Examination and to submit their scores. They are further urged to submit a sample of their written work. International applicants whose native language is not English should take the TOEFL examination and submit their scores; a score of at least 600 is required for regular admission.

*Program Description.* The Ph.D. program has three stages. (1) The first stage is completed when a student has earned 8 units of graduate credit or is deemed completed if the student has received a master's degree in philosophy elsewhere. (2) The second stage is completed when the student has earned 8 additional units (or, having received a master's degree previously, has earned and has been allowed transfer credit for a total of 16 units) and has satisfied the preliminary examination requirement, a course distribution requirement, a foreign

language requirement, and a logic requirement (see below). At least 12 of the 16 units must be earned in regularly scheduled courses and seminars, and at least 5 must be earned in seminars. (3) The third stage is completed when the student has earned another 8 units of graduate credit (usually in seminars and thesis research) and has satisfied the thesis and doctoral oral examination requirements (see below). A minimum grade-point average of 4.0 (A = 5.0) is required for the Ph.D. degree. Candidates must also satisfy the Graduate College residence requirement.

Candidates need not take work in a minor field outside the department. In cases in which advanced study in philosophy would be enhanced by study in a related discipline, students may use such related course work to satisfy the credit requirements for the degree. Credit toward the satisfaction of these requirements in such cases is limited to 2 units. If a student wishes the work to count as an extradepartmental minor, the minimum number of units accepted is 2 and the maximum is 4.

The department offers three main fields of concentration: (1) the history of philosophy (including recent Anglo-American philosophy and Continental philosophy); (2) the theory of knowledge (including philosophy of science and philosophy of language) and metaphysics (including philosophy of mind and philosophy of religion); and (3) ethics and value theory (including social and political philosophy and aesthetics). Students may specialize in any of these areas but must demonstrate competence in all of them. Two graduate-level courses must be taken in each of these three areas (the course distribution requirement). The two-part preliminary examination covers the latter two areas, with a knowledge of the history of philosophy to be demonstrated in each part.

Students must also demonstrate either (1) a basic reading knowledge of two of the following languages: German, French, Greek, and Latin; or (2) high proficiency in one of these languages. (Substitution of another language requires the permission of the chair of the department.) In addition, students must demonstrate competence in symbolic logic, either by passing an approved course in the subject or by passing a proficiency examination administered by the department.

There is no separate master's degree requirement for Ph.D. candidates. The A.M. degree in philosophy is automatically awarded to those who have not earned this degree previously elsewhere when they satisfy the above requirements.

After satisfying these requirements, a candidate for the Ph.D. must submit an acceptable dissertation and pass a final, oral examination on the thesis. The acceptability of the thesis is judged and the final examination administered by the candidate's doctoral committee.

Ph.D. candidates who wish simultaneously to pursue advanced degrees in other disciplines (e.g., medicine or law) are permitted to do so. (For example, see the description elsewhere in this catalog of the Medical Scholars Program.)

#### FINANCIAL AID

Financial aid is available to many students in the form of fellowships, assistantships, and waivers of tuition and service fees. The maximum period for which students may expect to receive financial aid is five years; exceptions may be made in some cases (e.g., when students are pursuing several advanced degrees simultaneously). Each year, the department reviews the performance of students receiving financial aid in order to determine whether their support should be continued. Students receiving transfer credit for graduate work in philosophy done elsewhere lose one semester of eligibility for financial aid for each 4 units of transfer credit allowed.

#### PHYSICS

Head of the Department: D.K. Campbell

Correspondence and Information: Graduate Advising Office, Department of Physics, University of Illinois at Urbana-Champaign, 227 Loomis Laboratory of Physics, 1110 West Green Street, Urbana, IL 61801-3080; (217) 333-3645

#### GRADUATE FACULTY

Professors: G. A. Baym, M. K. Brussel, D. K. Campbell, L. S. Cardman, D. M. Ceperley, S. J. Chang, Y. C. Chang, T. C. Chiang, P. D. Coleman, P. T. Debevec, P. G. Debrunner, J. G. Eden, G. Ehrlich, B. I. Eisenstein, R. A. Eisenstein, S. M. Errede, C. P. Flynn, E. H. Fradkin, J. M. Gibson, D. M. Ginsberg, G. E. Gladding, E. Gratton, I. H. Greene, K. Hess, L. E. Holloway, N. Holonyak, R. J. Holt, I. Iben, L. A. Jackson, L. M. Jones, M. V. Klein, J. B. Kogut, M. J.

Kushner, F. K. Lamb, P. C. Lauterbur, A. J. Leggett, K. Y. Lo, D. E. Mapother, R. M. Martin, J. M. Mochel, T. Ch. Mouschovias, A. M. Nathan, M. H. Nayfeh, Y. Oono, V. R. Pandharipande, C. J. Pethick, D. Pines, I. K. Robinson, M. B. Salamon, K. I. Schulten, K. S. Schweizer, R. O. Simmons, C. P. Slichter, L. L. Smarr, J. D. Stack, H. J. Stapleton, G. Stillman, J. D. Sullivan, J. J. Thaler, J. W. Truran, J. K. Wambach, W. D. Watson, M. B. Weissman, J. E. Wiss, J. P. Wolfe, P. G. Wolynes, H. W. Wyld

Associate Professors: D. H. Beck, P. M. Goldbart, N. D. Goldenfeld, G. D.

Gollin, S. Granick, D. W. Hertzog, S. A. Lamb, T. M. Liss, H. Morkoc, P. W. Phillips, D. N. Ruzic, R. L. Schult, M. Stone, L. A. Thompson, D. J. Van Harlingen

Assistant Professors: D. Cahill, S. L. Cooper, A. W. Hübner, G. U. Nienhaus, M. A. Selen, A. V. Sokol, S. S. Willenbrock

#### GRADUATE DEGREE PROGRAMS

The Department of Physics offers graduate work leading to the master of science and the doctor of philosophy degrees. There is opportunity for experimental or theoretical specialization in nuclear physics; elementary particle physics; nuclear magnetic and electron spin resonance; astrophysics; the physics of solids, including research on ionic crystals, metals, semiconductors, superconductors, surface physics, and the properties of liquid helium; biomolecular and biological physics; laser spectroscopy of atoms; and nonlinear dynamics and complex systems. Graduate study in several areas of applied physics is available in conjunction with other departments in the University.

#### ADMISSION

Requirements for admission to the graduate program in physics, in addition to those of the Graduate College, are 20 hours of physics, excluding courses in general physics and including a semester of intermediate theoretical mechanics, and two semesters of intermediate electricity and magnetism or the equivalent. Advanced undergraduate courses in light, thermodynamics, and atomic and quantum physics, and undergraduate study of a foreign language are strongly recommended. Students whose undergraduate training in physics is deficient in one or more basic areas are often admitted on limited standing with deficiencies to be removed during the first year of graduate study.

#### MASTER OF SCIENCE

This program requires 8 units of graduate courses and is usually completed in one year of full-time study by students entering in full standing. Students entering with deficiencies may require up to two years to complete the degree requirements. Precise statements of degree requirements may be obtained from the graduate advising office of the Department of Physics.

#### DOCTOR OF PHILOSOPHY

Students working for the Ph.D. degree usually require from four to six years to complete the requirements. Students admitted with full standing are expected to pass the qualifying examinations within the first eighteen months of residence and the preliminary examinations within the following eighteen months. Departmental requirements for the doctor of philosophy degree, in addition to the general requirements of the Graduate College, are described in a pamphlet that may be obtained from the graduate advising office of the Department of Physics.

#### RELATED PROGRAMS

For information concerning astronomy, see page 185; for atmospheric sciences, page 186; biophysics, page 216; geophysics, page 205. A doctoral program in chemical physics is described on page 189.

#### PLANT PATHOLOGY

Interim Head of the Department: Gary H. Heichel

Correspondence and Information: Head, Department of Plant Pathology, University of Illinois at Urbana-Champaign, N-519 Turner Hall, 1102 South Goodwin Avenue, Urbana, IL 61801; (217) 333-3170

#### GRADUATE FACULTY

Professors: J. L. Crane, C. J. D'Arcy, S. K. Farrand, R. E. Ford, L. E. Gray, M. E. Irwin, G. R. Noel, J. K. Pataky, P. D. Shaw, J. B. Sinclair  
Associate Professors: D. M. Eastburn, D. I. Edwards, A. D. Hewings, H. W. Kirby, J. D. Paxton, W. L. Pedersen, S. M. Ries, D. G. White, H. T. Wilkinson

Assistant Professors: W. Chen, L. L. Domier, C. E. Eastman

**GRADUATE DEGREE PROGRAMS**

The Department of Plant Pathology offers a full complement of courses and study leading to the master of science and doctor of philosophy degrees. All students are required to have a program-of-study committee meeting after the first semester of graduate study. At that time, the courses a student will take for completion of a degree will be identified based on departmental requirements and individual student interests.

Training consists of a flexible program of courses and research in plant pathology and allied sciences. Areas of specialization include diseases of field, fruit, vegetable, turf, tree, or ornamental crops; virology, nematology, mycology, or phytobacteriology; chemical, genetic, and cultural control; biochemistry of plant diseases and pathogens; etiology; epiphytology; soil-borne diseases; and genetic and biotechnical engineering of plants and microorganisms.

**ADMISSION**

Applicants for graduate study must have a B.S. degree in a biological science from an accredited university. Application files are screened by a departmental admissions committee. Graduate College requirements, including the 4.0 (A = 5.0) minimum grade-point average, apply. We recommend that students take the GRE and have strong letters of reference.

**MASTER OF SCIENCE**

A candidate for the master of science must complete 8 units of credit, including the presentation of an acceptable thesis, and must pass an oral examination. Three units must be in 400-level courses, and 2 of the 3 must be in the major field. Limited credit in equivalent courses earned at other institutions may be accepted at the discretion of the department head and the student's program-of-study committee. Candidates must maintain a minimum grade-point average of 4.0 (A = 5.0) for the master's program.

**DOCTOR OF PHILOSOPHY**

Students working toward the Ph.D. degree usually require three additional years beyond the master's. To qualify for the preliminary examination, students must complete 8 units of course work, including required courses, beyond the master's degree. An oral preliminary examination before a minimum of four faculty members, including at least three within and one from outside the department, is required. A final examination by the same committee follows the presentation of an acceptable thesis based on original research by the student. Experience in teaching is a vital part of the graduate program and is required as part of the academic work of all Ph.D. candidates. A grade-point average of at least 4.0 is required for the Ph.D. degree.

**FINANCIAL AID**

Financial aid for graduate students in plant pathology is available as fellowships, research assistantships, and tuition and partial fee waivers. Qualified candidates are considered automatically for financial support upon application. Graduate students must make satisfactory progress toward their degree in order to renew their annual contract for support.

**POLITICAL SCIENCE**

*Head of the Department:* Peter F. Nardulli

*Correspondence and Information:* Director of Graduate Studies, Department of Political Science, University of Illinois at Urbana-Champaign, 361 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801

**GRADUATE FACULTY**

*Professors:* I. H. Carmen, S. P. Cohen, P. F. Diehl, A. B. Fields, R. E. Kanet, E. A. Kolodziej, J. H. Kuklinski, D. F. Linowes, R. L. Merritt, S. S. Nagel, P. F. Nardulli, D. M. Pinderhughes, P. J. Quirk, R. F. Rich, P. W. Schroeder, M. G. Weinbaum, R. Weissberg, F. M. Wirt, G. T. Yu, D. A. Zinnes

*Associate Professors:* S. A. Douglas, M. A. Krassa, R. G. Muncaster, S. T. Seitz

*Assistant Professors:* M. L. Bowen, C. S. Leff, J. W. Lepingwell, M. D. McBurnett, G. L. Munck, M. A. Orlie, B. R. Sala

**GRADUATE DEGREE PROGRAMS**

The Department of Political Science offers graduate work leading to the degrees of master of arts and doctor of philosophy. Students are not normally admitted to a terminal master's degree program.

**ADMISSION**

The Graduate College admission requirements apply for all programs. The student should have a minimum of 20 hours of under-

graduate work in political science and cognate disciplines such as economics, psychology, finance, sociology, or history. All applicants are required to submit Graduate Record Examination scores and an example of written work. A minimum TOEFL score of 590 is required of all international applicants whose native language is not English.

**MASTER OF ARTS**

Students can earn a master of arts in political science usually within one year. It entails the completion of 8 units and the achievement of a 4.0 GPA in all courses taken. A master's paper is required.

**DOCTOR OF PHILOSOPHY**

The course of study leading to a Ph.D. in political science requires a minimum of three years of full-time study, culminating in the successful defense of a doctoral dissertation. Two of the three years must be spent in residence. University residence requirements also state that a doctoral candidate must spend two successive semesters in residence beyond the master's degree. A minimum of 24 units of academic credit is required, 8 of which may be units of dissertation research.

In addition to meeting Graduate College requirements, the Department of Political Science requires that students complete a "scope and methods" sequence, acquire proficiency in analytic skills, and demonstrate expertise in several subfields within the discipline. The progress of Ph.D. candidates is monitored at various points in the program. In addition to an interim evaluation, students must pass a set of qualifying examinations and present a dissertation proposal. Once the doctoral dissertation is completed, the candidate must successfully complete an oral final defense.

Ph.D. candidates concentrate in two of five fields of political study: American government and politics, comparative government and politics, international relations, formal theory and empirical methodology or public policy.

**FINANCIAL AID**

Students accepted into the department's graduate program are eligible to apply for financial aid. Most incoming students with good credentials and continuing students demonstrating satisfactory progress will receive some type of financial aid, but the type and amount will vary. The Department of Political Science provides, on a competitive basis, aid packages up to \$15,000, plus waivers of tuition and partial fees. Financial aid is usually a combination of fellowship money and assistantships. Students not requiring or qualifying for these types of assistance may apply for a tuition and fee waiver. Limited amounts of aid are also available for such things as dissertation field research, internships, and the presentation of papers at professional meetings. The University of Illinois is also a participating member of the Committee on Institutional Cooperation, which provides predoctoral grants to facilitate research in developing countries.

**PSYCHOLOGY**

*Head of the Department:* Emanuel Donchin

*Office, Department of Psychology, University of Illinois at Urbana-Champaign, 337 Psychology Building, 603 East Daniel Street, Champaign, IL 61820; (217) 333-2169*

**GRADUATE FACULTY**

*Professors:* R. Baillargeon, D. A. Bernstein, K. Bock, W. Brewer, G. L. Clore, M. Coles, J. H. Davis, G. Dell, J. DeLoache, E. Diener, E. Donchin, F. Drasgow, D. E. Dulany, C. W. Eriksen, F. Fincham, M. Fishbein, M. Gabriel, W. T. Greenough, J. Hirsch, C. O. Hopkins, L. Hubert, C. L. Hulin, L. Jones, J. Juraska, F. Kanfer, S. Komorita, A. Kramer, P. R. Laughlin, G. Logan, J. Malpeli, R. McDonald, J. E. McGrath, G. Miller, N. Moray, J. Rappaport, E. Roy, E. Shoben, T. Srull, H. C. Triandis, S. Wasserman, C. Wickens, R. Wyer

*Associate Professors:* M. Aber, M. Banich, H. Berenbaum, U. Bockenholt, G. Bradshaw, D. Budescu, P. Carnevale, E. Dzafarou, L. Fitzgerald, D. Irwin, K. Miller, P. Miller, G. Murphy, B. Ross, P. Sanderson, J. Snizek

*Assistant Professors:* C. Anderson, N. Cohen, K. Craig, S. Doane, C. Fisher, S. Garnesey, T. Harpur, W. Heller, G. Lintern, S. Mangelsdorf, J. Rhodes, K. Rosengren, L. Trejo, R. Wickesberg

**GRADUATE DEGREE PROGRAMS**

The Department of Psychology offers graduate work leading to the degrees of master of arts, master of science, and doctor of philosophy. Doctor of philosophy programs are offered in the following areas of psychology: biological, developmental, cognitive, and clinical psychology; perception and performance; personality and social ecology;



quantitative; and social/organizational individual differences. The master of arts degree is awarded to students in the above programs as an intermediate degree. Master of science programs are offered as terminal degrees in personnel psychology, engineering psychology, and applied measurement psychology.

#### ADMISSION

The Graduate College admission requirements apply for all programs. The candidate for admission to a master of arts or doctor of philosophy program should ordinarily have the following preparation: a minimum of 15 hours in psychology, a laboratory course in experimental psychology, a course in statistics, a one-year course in another laboratory science, and high scores on the Graduate Record Examination. Preference is given to students who have taken mathematics beyond college algebra and to those who have some research experience. Applications for admission to part-time study are usually not approved.

#### MASTER OF ARTS

The master of arts degree is awarded as an intermediate degree to students who are Ph.D. candidates, when they have satisfactorily completed 8 units of graduate work, including an acceptable thesis.

#### MASTER OF SCIENCE

The degree of master of science in personnel psychology, in engineering psychology, or in applied measurement is awarded as a terminal degree to candidates who have had an appropriate applied psychology undergraduate program and who satisfactorily complete 8 prescribed graduate units in their specialty.

#### DOCTOR OF PHILOSOPHY

The doctor of philosophy degree is awarded to candidates who complete an approved program in their area of specialization and meet departmental and Graduate College requirements for the degree. These must include at least 24 graduate units beyond the bachelor's degree; satisfactory performance in courses or examinations dealing with quantitative methods, conceptual foundations of psychology, and chosen areas of specialization; a master's thesis or equivalent; appropriate advanced courses and seminars in the area of specialization and in related and supporting areas; satisfactory performance on a doctoral qualifying examination; satisfactory performance on an oral preliminary examination; completion of an acceptable Ph.D. thesis; and satisfactory performance on an oral examination in defense of the thesis.

Although teaching is not a general Graduate College requirement, this department requires Ph.D. candidates to do some teaching as part of their academic work, such experience being considered a vital part of the graduate program. This usually takes the form of a teaching assistantship for at least one semester.

#### MEDICAL SCHOLARS PROGRAM

This program allows the student interested in medicine and psychology to earn both the M.D. and Ph.D. (in psychology) degrees while gaining unique multidisciplinary research experience and expertise.

Individually tailored programs of study can be developed within the general requirements of medical training and graduate study in psychology. Degree work will be arranged to accommodate the scheduling requirements of both programs, but the course of study in psychology will be equivalent to that of all other doctoral candidates. More details about the Medical Scholars Program are available from the associate dean for academic affairs, College of Medicine at Urbana-Champaign, University of Illinois at Urbana-Champaign, 190 Medical Sciences Building, 506 South Mathews Avenue, Urbana, IL 61801.

#### REGIONAL SCIENCE PROGRAM

*Correspondence and Information:* Regional Science Program, University of Illinois at Urbana-Champaign, 220 Davenport Hall, 607 South Mathews Avenue, Urbana, IL 61801

*Program Committee:* G. J. D. Hewings (chair), P. F. Colwell, J. Crithfield, K. Donaghy, C. D. Kolstad, H. Thomas, H. F. Williamson

#### GRADUATE DEGREE PROGRAMS

An interdisciplinary concentration in regional science is available for students enrolled in master's or doctoral degree programs in the following departments: agricultural economics, business administration, economics, finance, geography, and urban and regional planning. Program concentration varies by department and includes emphasis in transportation planning, regional development and planning, real estate and urban land economics, urban and regional

analysis, and environmental systems and management. Core courses are taken in regional and social science theory, location theory, and methods of regional analysis; the specific core courses will depend upon background and major department. Further specialization may be pursued by making approved selections from among a rich array of more than forty regional science courses in the participating departments.

#### ADMISSION

Prospective students should address inquiries to the program office. Applicants desiring a major or minor emphasis in regional science should seek admission to one of the cooperating departments. All degree candidates must complete the requirements of the department in which they enroll. Students specializing in regional science are expected to have a sound background in economics, statistics, and mathematics. Deficiencies in these subjects must be removed during the first year of graduate study.

#### REHABILITATION

*Director of the Division:* Michael Ellis

*Correspondence and Information:* Director of Graduate Studies, Division of Rehabilitation Education Services, University of Illinois at Urbana-Champaign, 1207 South Oak Street, Champaign, IL 61820; (217) 333-4622

#### GRADUATE FACULTY

*Professor:* P. Leung, C. Schiro-Geist

*Associate Professor:* R. Alston, M. J. Armstrong

*Assistant Professors:* G. G. Garske, B. N. Hedrick, M. G. Strauss, J. Trach, S. C. Weaver

#### GRADUATE DEGREE PROGRAM

The Division of Rehabilitation Education Services offers graduate work leading to a master of science degree. Individualized programs are available in general rehabilitation, rehabilitation administration, supported employment, rehabilitation counseling, and rehabilitation engineering.

#### ADMISSION

The Graduate College admission requirements apply. Applicants must hold a baccalaureate degree (or its equivalent) and have a grade-point average of at least 4.0 (A = 5.0) for the last 60 hours of undergraduate work and for any graduate work completed. Applicants should have a degree in a rehabilitation-related discipline and/or a strong background in the social and biological sciences. Satisfactory Graduate Record Examination scores or Miller Analogies Test scores and an introductory statistics course are required. Applicants must submit a brief statement of their education and career goals and three letters of recommendation.

#### MASTER OF SCIENCE

Candidates for the master of science in rehabilitation must complete at least 10 units of graduate work. At least 3 units must be at the 400 level, and 2 of these must be in rehabilitation. A thesis is not required but may be written for 2 units of credit. A full-time student can complete the program in three or four semesters.

#### RESOURCES AND FACILITIES

The laboratory facilities and service programs that the division maintains in the Rehabilitation Education Center are outstanding and provide excellent resources for graduate study, research, and practical experience in most areas of rehabilitation.

#### FINANCIAL AID

Fellowships, tuition and fee waivers, and assistantships are available on a competitive basis.

#### RELIGIOUS STUDIES

*Director of the Program:* Gary G. Porton

*Correspondence and Information:* Program in Religious Studies, University of Illinois at Urbana-Champaign, 3014 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801

The Program in Religious Studies sponsors teaching, research, and public service in religious studies. Although the program does not itself offer graduate degrees, its eleven core faculty members, as well as its seventeen associated faculty members, regularly teach graduate-level courses and serve on thesis committees for other departments. Students interested in pursuing graduate work in religious studies

should contact the director of the program to determine how they can best pursue their interests.

## ROMANCE LINGUISTICS

### GRADUATE DEGREE PROGRAMS

An option in Romance linguistics is available to candidates for the doctor of philosophy in the Departments of French; Linguistics; and Spanish, Italian, and Portuguese. The curriculum is based upon appropriate course offerings in the three departments. Further information may be obtained from the executive officers of those departments.

## RUSSIAN AND EAST EUROPEAN STUDIES

*Director of the Russian and East European Center:* D. P. Koenker

*Correspondence and Information:* Director, Russian and East European Center, University of Illinois at Urbana-Champaign, 104 International Studies Building, 910 South Fifth Street, Champaign, IL 61820; (217) 333-1244; FAX: (217) 333-1582

### GRADUATE FACULTY

*Professors:* P. P. Bernard, E. C. Bristol, M. T. Choldin, M. Friedberg, J. Gorecki, F. M. Gottheil, K. A. Hitchins, H. H. Hock, R. C. Jennings, R. E. Kanet, D. P. Koenker, P. B. Maggs, H. P. Maguire, J. P. McKay, L. H. Miller, R. G. Ousterhout, T. Pachmuss, H. M. Schoenfeld, K. H. Schoeps, P. W. Schroeder, D. M. Shtohryn, O. Soffer, M. G. Weinbaum, L. Zgusta

*Associate Professors:* M. H. Berry, F. Y. Gladney, S. P. Hill, M. M. Shorish, R. Tempest, B. Uroff

*Assistant Professors:* D. V. Bobyshev, C. S. Leff, J. W. R. Lepingwell, A. M. Verner

### GRADUATE DEGREE PROGRAMS

The Russian and East European Center administers a two-year interdisciplinary program of language and area courses leading to a master of arts degree. The M.A. degree may be earned either as a terminal degree or as the first stage of preparation toward a doctor of philosophy degree or a professional program with specialization in Russian and East European studies.

### ADMISSION

Applicants for admission to the master of arts program should have completed at least two years of Russian or another East European language and hold a bachelor's degree from an accredited institution of higher education. The Graduate Record Examination is required. Admission requirements of the Graduate College also apply.

### MASTER OF ARTS

A Candidate must complete 9½ units of graduate credit, including 1 unit in the Seminar in Russian and East European Studies (REES 450) and ½ unit in Slavic Bibliography (LIS 433), both normally taken during the first semester in residence. Of the remaining units, at least 6 must be in Russian and East European studies core courses. Two units must be at the 400 level, of which 1 unit must be selected from REES core courses, Russian and East European studies core courses must be distributed among at least three different disciplinary units. Language courses do not count toward the 6 units in core courses, but may be counted toward the total of 9½ units if taken at the 300 level or above. Students will be expected to achieve third-year competency in Russian or another language of Central Eurasia, normally by the end of the first year of study. A major research paper is required, using primary sources, including sources in the language used to meet the competency requirement. Normally, this paper would be written in a research seminar in a disciplinary department, but students who need or wish to do so may complete this requirement under the center's own rubric (REES 495). Candidates for the M.A. degree are expected to maintain a GPA of 4.25 in courses taken for the program.

### CERTIFICATE OF GRADUATE SPECIALIZATION IN RUSSIAN LANGUAGE AND AREA STUDIES

This certificate is offered by the Russian and East European Center in cooperation with various departments. It is for persons with the baccalaureate who are enrolled in advanced studies in any discipline and who wish at the same time to gain a knowledge of the Russian language and area. The requirements are as follows: (1) A good command of written and spoken Russian, as determined by special examinations. (2) At least 6 graduate units in course work relating to Russia, of which at least ½ unit must be Library and Information Science 433C. The remaining units must be distributed among at least

three of the departments represented in the program (anthropology, economics, geography, history, law, library and information science, political science, Slavic languages and literatures, and sociology) other than the student's own major department. If the student's major department is one of these nine, up to 1 unit from the major department may be counted as part of this requirement. (3) A special essay based largely on Russian sources, which must meet, at the minimum, the standard usually required in a master's thesis. A copy of the student's master's or doctoral thesis may be submitted in fulfillment of this requirement.

Students in other disciplines and in professional schools and colleges who seek knowledge of Russian and East European studies are invited to consult with the director of the center in order to design individualized programs.

### FINANCIAL AID

Students in the M.A. program who are U.S. citizens or permanent residents are eligible to compete for Foreign Language and Area Studies (FLAS) fellowships, offered with support to the center from the U. S. Department of Education's Title VI program. Qualified students may also be eligible to compete for other fellowships at the campus level. A limited number of teaching and graduate assistantships, and tuition and fee waivers are also available to outstanding students. Some employment opportunities are available through the Slavic and East European Library and other nonteaching units on campus. Information on need-based financial aid may be obtained from the Office of Student Financial Aid.

## SECOND LANGUAGE ACQUISITION AND TEACHER EDUCATION (SLATE)

*Chair of SLATE Program:* Molly Mack

*Correspondence and Information:* SLATE Program, 2090 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801

### GRADUATE FACULTY

*Professors:* E. Bokamba, C. C. Cheng, W. Dickerson, A. O. Hadley, B. Kachru, Y. Kachru, H. MacLay, S. J. Savignon

*Associate Professors:* L. F. Bouton, J. R. Cowan, G. Cziko, J. F. Lalande II, J. F. Lee, M. Mack, E. McClure, J. Packard, B. VanPatten

*Assistant Professors:* D. Andrews, F. Davidson, A. M. Escobar, G. E. Garcia, R. Jimenez, N. Markee, D. Musumeci, S. Shinnal

### CERTIFICATE OF ADVANCED STUDY IN SECOND LANGUAGE ACQUISITION AND TEACHER EDUCATION

This certificate is offered by the multidisciplinary program in SLATE in cooperation with various units. The Ph.D. program in SLATE is designed to provide advanced training for prospective teachers, researchers, and administrators concerned with second-language pedagogy, research, and theory. The SLATE program has the combined support of faculty members in a number of different units across the University. The supporting faculty hold appointments in various units in the Colleges of Education and Liberal Arts and Sciences, including the Departments of Curriculum and Instruction; East Asian Languages and Cultures; Educational Psychology; French; Germanic Languages and Literatures; Linguistics; and Spanish, Italian, and Portuguese; as well as in the Division of English as an International Language. Other units also provide valuable courses relevant to the SLATE certificate; hence, students in the SLATE program have access to a wide range of resources within the University.

The SLATE program is designed to meet the individual needs of its students. The course requirements in the affiliated units are generally flexible and allow freedom for students to conduct work in specialized subfields tailored to their academic interests and goals. In recent years, students have studied such topics as cognitive and affective factors in second-language (L2) learning and teaching; communicative competence; computer-assisted language instruction; curriculum development; L2 reading strategies; psycholinguistic and neurolinguistic aspects of second-language acquisition; and L2 speech perception and production. What unifies these various fields of specialization is the relatively young but rapidly growing discipline of second-language learning and teaching.

### ADMISSION

Application to the SLATE program is made directly to one of the cooperating Ph.D. granting units listed above. (NOTE: SLATE students receive SLATE certification upon successful completion of the program's requirements in conjunction with the receipt of a departmentally based doctoral degree.) Admission is subject to all regula-

tions of the Graduate College at the University of Illinois. The applicant must have an M.A., M.A.T., or the equivalent in an appropriate related field. For example, a master's degree in education, English as a second language, a foreign language, or linguistics is appropriate. The applicant must have a minimum grade-point average of 4.5 on a 5.0 scale (3.5 on a 4.0 scale) or the equivalent in previous graduate work. Foreign applicants for whom English is a non-native language must satisfy English proficiency requirements before admission can be granted. Some experience in teaching a second language is recommended.

#### FINANCIAL AID

Financial aid is granted only through individual departments. A limited number of teaching and research assistantships, tuition and fee waivers, and fellowships are available each year through cooperating departments. Applicants can indicate their desire for financial aid by checking appropriate boxes on the application for admission. Financial support for a limited number of qualified SLATE candidates may also be available through assignments in the Intensive English Institute, EOP Rhetoric Program, Language Learning Laboratory, or Office of Student Teaching. Applicants should contact these units directly for details. The SLATE Executive Committee itself administers no financial aid.

### SLAVIC LANGUAGES AND LITERATURES

(Including Bulgarian, Czech, Old Church Slavonic, Polish, Russian, Serbian or Croatian, and Ukrainian)

*Head of the Department:* Olga Soffer

*Correspondence and Information:* Department of Slavic Languages and Literatures, University of Illinois at Urbana-Champaign, 3092 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-0680

#### GRADUATE FACULTY

*Professors:* E. Bristol, M. Friedberg, T. Pachmuss

*Associate Professors:* F.Y. Gladney, S. P. Hill, R. Tempest

#### GRADUATE DEGREE PROGRAMS

The Department of Slavic Languages and Literatures offers graduate work leading to the degrees of master of arts in Russian, master of arts in the teaching of Russian, and doctor of philosophy with specialization in Russian literature or Slavic linguistics.

#### ADMISSION

Prospective graduate students of Slavic languages and literatures should have had the equivalent of at least three years of college Russian and some advanced course work in Russian literature. Some acquaintance with other languages and literatures is desirable. Students choosing Russian or other Slavic languages and literatures as a minor subject should consult the department. The Graduate College admission requirements apply.

#### MASTER OF ARTS IN RUSSIAN

In addition to fulfilling the requirements of the Graduate College, candidates must pass both a written and an oral examination in their major and must pass the Russian proficiency examination. Students may specialize in literature or linguistics. All students must complete a departmental core program composed of courses in literature and linguistics. No master's thesis is required.

#### MASTER OF ARTS IN THE TEACHING OF RUSSIAN

All candidates for this degree are required to take (1) Russian (5 units, including at least 2 units from courses open only to graduate students); (2) education (2 units, including 1 unit in educational psychology and 1 unit in educational policy studies); and (3) electives (1 unit). These courses must be selected with the approval of the adviser. Candidates must pass an examination based on their course work and on a reading list. Contact the certification officer of the Council on Teacher Education (110 Education Building, 333-7195) for information pertaining to pursuing certification while enrolled in the graduate program.

#### DOCTOR OF PHILOSOPHY

All candidates for the Ph.D. degree must fulfill the general requirements of the Graduate College and must have a reading knowledge of two non-Slavic languages, ordinarily French and German. Students entering the program with an M.A. degree from another department or institution must pass a qualifying examination by the end of their second semester of full-time study in the department. A student may choose literature or linguistics as a major field. In addition to satisfy-

ing departmental language proficiency requirements, students must complete 8 units of course work beyond the M.A. degree, of which at least 5 are within the student's major field of study. The student must also complete a minor consisting of three graduate-level courses in a single field, or two such courses each in two fields. Possible minor fields include Russian literature, Slavic linguistics, another Slavic language or literature, or an acceptable subject area outside the department. A student with a double minor may elect to be examined in only one minor. Students majoring in Russian literature must complete two graduate-level courses in another modern Slavic language or literature in the original language. Students majoring in Slavic linguistics must complete a minimum of three graduate-level courses in two other modern Slavic languages or literatures in the original languages. A Ph.D. preliminary examination, consisting of written and oral portions on both major and minor fields, is required. A thesis is required for the degree of doctor of philosophy.

Graduate courses are offered in the following Slavic languages: Bulgarian, Czech, Old Church Slavonic, Polish, Russian, Serbian or Croatian, and Ukrainian.

#### RESEARCH INTERESTS

Major areas include East, West, and South Slavic linguistics; language teaching pedagogy; and computer-assisted language teaching. In literature, the fields of specialization include Russian literature of all periods, particularly of the nineteenth and twentieth centuries, Russian literature and society, emigre Russian literature, the Russian romantic and symbolist poets, Russo-Western literary and cultural contacts, and Russo-Jewish literary relations. Other major areas of interest represented include the Soviet and East European cinema, literary translation, and Polish literature.

The University of Illinois at Urbana-Champaign has one of the country's three outstanding Slavic library collections. The Illinois Summer Research Laboratory on Russia and Eastern Europe brings to the campus more than one hundred postdoctoral researchers from all over the country every year to take advantage of the Slavic library resources. The library's unique Slavic reference service is in year-round operation, answering queries from libraries and individual scholars throughout the country.

#### FINANCIAL AID

Several forms of financial assistance, including University fellowships, Foreign Language and Area Studies (Title VI) Fellowships, teaching assistantships, research assistantships, and tuition and service-fee waivers are available. There are also opportunities for part-time related work in the Slavic and East European Division of the University Library and elsewhere on the campus. Most students making satisfactory progress are assured of some form of financial assistance and also receive the opportunity to acquire classroom teaching experience.

### SOCIAL WORK

*Acting Dean of the School:* Jill Doner Kagle

*Correspondence and Information:* Assistant Dean, School of Social Work, University of Illinois at Urbana-Champaign, 1207 West Oregon Street, Urbana, IL 61801; (217) 333-2261

#### GRADUATE FACULTY

*Professors:* P. Baggal, R. Felner, J. Kagle, E. Mech

*Associate Professors:* C. Cowger, R. Downing, E. Gullerud, A. Halter, N. Weinberg

*Assistant Professors:* M. Adamek, Y. DeRoos, D. Dupper, S. Glynn, D. Ita, M. Kaplan, S. Kopels, J. Rycraft

*Emeritus Professors:* L. Cosin, K. Gould, P. Leuenberger, C. Henderson,

F. Itzin, M. Monkman, M. Taber, A. Vattano

#### GRADUATE DEGREE PROGRAMS

The School of Social Work offers programs leading to the master of social work and the doctor of philosophy degrees.

#### MASTER OF SOCIAL WORK

The master's degree provides specialized study for advanced social work practice. Students take foundation and advanced courses in social work methods; organization and services; research, human behavior, and the social environment; and field instruction. (A twenty-nine week field placement in a social service agency is required.) A total of 14 to 16 units of graduate course work is required for the M.S.W. degree, and the curriculum may be completed in sixteen to eighteen months of full-time study. Students choose from one of the following areas of specialization: child welfare, health care, commu-



nity mental health, and school social work. Within each specialization, a direct service or an indirect service focus may be pursued. Students who wish to specialize in aging, marriage and family practice, occupational social work, substance abuse, or another individualized plan of study will have the opportunity to develop the area with a faculty adviser.

**Admission.** For the M.S.W. program, applicants must meet the following minimum requirements: (1) a baccalaureate degree from an accredited college or university in the United States or from a recognized institution of higher learning abroad; (2) a grade-point average of 4.0 (A = 5.0) for the last 60 semester hours of undergraduate work; (3) 20 hours of completed course work in social, biological, and behavioral sciences; (4) evidence of personal attributes that are suitable for the profession of social work; (5) results of the Test of English as a Foreign Language (TOEFL) for any applicant whose native language is not English; (6) a course in elementary statistics; (7) a course in human development covering the life span; (8) foundation knowledge in human behavior and the social environment, including the family, small groups, communities, and organizations, as well as human biology; (9) a foundation course in research methods; (10) a written supplementary statement.

#### DOCTOR OF PHILOSOPHY

The Ph.D. program is typically a 16-unit program for students who enter with an M.S.W. degree. The program is interdisciplinary and has a strong research emphasis. Anthropology, economics, education, labor and industrial relations, political science, law, psychology, sociology, and urban planning are among the disciplines that contribute to the program. Candidates prepare for leadership in teaching, research, and policy analysis, development, and implementation.

**Admission.** The Ph.D. program is open to students who demonstrate a potential for research and other scholarly work and leadership in the field of social welfare and the allied professions and who have had education in social work or in related professions or disciplines. A grade-point average of 4.0 (A = 5.0) is required for consideration. The Graduate Record Examination, three letters of recommendation, an example of written work, and in some cases the Test of English as a Foreign Language (TOEFL) are also required.

#### SOCIOLOGY

*Head of the Department:* James R. Kluegel

*Director of Graduate Studies:* William G. Martin

*Correspondence and Information:* Department of Sociology, University of Illinois at Urbana-Champaign, 326 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801; (217) 333-1950; FAX: (217) 333-5225

#### GRADUATE FACULTY

*Professors:* M. Aiken, O. Burlon, H. Choldin, N. Denzin, L. Estabrook, J. Gorecki, R. Jones, J. Kluegel, C. Kramarae, C. McPhail, A. Pickering, J. Robinson, A. Sofranko, S. Sudman, J. C. van Es, R. Warnecke  
*Associate Professors:* S. Hatchett, R. Liebert, W. Martin, M. Solau, S. Star, G. Stevens, G. Swicegood, W. Trent, S. Wasserman, N. Wiley  
*Assistant Professor:* C. Britt, M. H. Meyer, T. Liao, J. Lie  
*Emeritus Professors:* D. Bordua, W. Form, J. Hulett, Jr., N. Jacobs, B. Karsh, G. Lueschen, J. Spaeth

#### GRADUATE DEGREE PROGRAMS

The Department of Sociology offers graduate work leading to the doctor of philosophy degree.

#### ADMISSION

The Graduate College admission requirements apply. Students applying for admission should have a background in one of the social sciences, preferably sociology. Applicants must submit Graduate Record Examination scores on the tests of verbal ability, quantitative ability, and analytical ability. The advanced test in sociology is optional. A writing sample is highly recommended. Non-native English speakers must also submit TOEFL scores; the TSE is optional but recommended.

#### DOCTOR OF PHILOSOPHY

The graduate program is small and cohesive with a high faculty-student ratio. All students are required to take a small core of required courses in theory and methods, and then specialize in one of five areas. The areas are composed of collaborative research and curricula, and constitute the major locations for graduate student training. The areas are cultural science and information; criminology and law; popula-

tion, health, and the life course; race and ethnicity, class and community; and social and political order and change. Doctoral candidates must pass a specialty examination in their area and write and defend a dissertation.

#### FINANCIAL AID

Financial support is provided for most graduate students through teaching assistantships, research assistantships, tuition and fee waivers, fellowships, and other University and external financial support.

#### SPANISH, ITALIAN, AND PORTUGUESE

(Including Catalan)

*Head of the Department:* R. W. Sousa

*Correspondence and Information:* Department of Spanish, Italian, and Portuguese, University of Illinois at Urbana-Champaign, 4080 Foreign Languages Building, 707 South Mathews Avenue, Urbana, IL 61801; (217) 333-3390

#### GRADUATE FACULTY

*Professors:* W. C. Blaylock, A. K. Cassell, E. P. Garfield, M. A. Lewis, T. C. Meehan, A. Musumeci, A. Porqueras-Mayo, I. A. Schulman, R. W. Sousa

*Associate Professors:* A. Aïx, P. W. Borgeson, J. I. Hualde, J. F. Lee, P. Sharpe, B. VanPatten, J. C. Wilcox

*Assistant Professors:* L. M. Brocato, L. E. Delgado, A. M. Escobar, D. M. Musumeci, M. Roy-Figueroa, J. L. Tolliver

#### GRADUATE DEGREE PROGRAMS

The Department of Spanish, Italian, and Portuguese offers work leading to the master of arts and doctor of philosophy in Spanish, in Italian, and in Portuguese; to a master of arts in the teaching of Spanish; and to a certificate of advanced study in second language acquisition and teacher education (SLATE) in Spanish, Italian, or Portuguese. Fields of concentration are Spanish linguistics, Romance linguistics, Spanish literature, Latin American literature, Italian linguistics, Italian literature, and Portuguese language and literature. A graduate course in Catalan literature is available.

#### ADMISSION

The Graduate College admission requirements apply. The normal prerequisite for a graduate major is an undergraduate major in the corresponding Romance language or consent of the department. Applicants living in the United States are required to submit Graduate Record Examination scores for the aptitude test. Students doing graduate work for any advanced degree in Spanish, Italian, or Portuguese must possess a command of the language.

The programs offered are described below. For additional information, consult the department.

#### MASTER OF ARTS

In addition to fulfilling the general requirements of the Graduate College, candidates must pass a comprehensive examination based on course work and a general reading list. Areas of specialization offered in Spanish are Spanish and Spanish American literature, Spanish linguistics, and applied Spanish linguistics. Areas of specialization offered in Italian are Italian literature, Italian linguistics, and applied Italian linguistics. Areas of specialization offered in Portuguese are Brazilian literature and Portuguese literature. Detailed statements of the requirements for each specialization may be obtained from the department.

#### MASTER OF ARTS IN THE TEACHING OF SPANISH

An applicant must have a bachelor's degree in either Spanish or teacher education. Candidates must complete a total of 8 units to be taken in various areas (Spanish, foreign language learning, general education, linguistics, etc.) approved by the adviser in conjunction with the candidate's interests, background, and needs. Contact the certification officer of the Council on Teacher Education (110 Education Building, 333-7195) for information pertaining to pursuing certification while enrolled in the graduate program.

#### DOCTOR OF PHILOSOPHY

Areas of specialization offered in Spanish are Medieval literature, Renaissance and Golden Age literature, Spanish literature of the nineteenth and twentieth centuries, Spanish American colonial literature, Spanish American modern and contemporary literature, Spanish linguistics (with various subfield specializations), and Romance linguistics (with various subfield specializations). Areas of specialization offered in Italian are Medieval literature, Renaissance literature, Baroque literature, Enlightenment and Romanticism, modern litera-

ture, Italian linguistics (with various subfield specializations), and Romance linguistics. Areas of specialization offered in Portuguese are Medieval literature, Renaissance literature, modern literature, Brazilian literature (through Romanticism or after 1881), and Romance linguistics.

The option in SLATE is available to candidates with an appropriate M.A. degree in Spanish (linguistics or applied linguistics), Italian (linguistics or applied linguistics), Portuguese, and at least one year of experience teaching in a second language context. Candidates selecting this option are required to complete courses in linguistics, psycholinguistics, sociolinguistics, and second language acquisition, in addition to advanced study in Spanish, Italian, or Portuguese linguistics. Also required are 2 units in research methodology. Although teaching is not a general Graduate College requirement, this department usually requires Ph.D. candidates to do some teaching as part of their academic work, such experience being considered a vital part of the graduate program.

#### FINANCIAL AID

The department offers fellowships to outstanding applicants to the graduate program and regularly provides a large number of teaching assistantships, research assistantships, and fellowships for the study of the works of Jose Marti. The Graduate College fellowship competition is open for qualified minority candidates. Other fellowships and grants are available in campuswide competitions (Latin American Center grants, dissertation research grants, summer fellowships, and others).

### SPEECH AND HEARING SCIENCE

*Head of the Department:* Peter J. Alfonso

*Correspondence and Information:* Head, Department of Speech and Hearing Science, University of Illinois at Urbana-Champaign, 901 South Sixth Street, Champaign, IL 61820; (217) 333-2230

#### GRADUATE FACULTY

*Professors:* R. C. Bilger, D. P. Kuehn, E. Yairi

*Associate Professors:* R. D. Chambers, J. G. Erickson, C. J. Johnson, M. A. O'Neill, F. A. Proctor

*Assistant Professors:* C. Lansing, A. Perlman, R. Watkins

*Emeritus Professors:* F. Johnson, E. Paden, J. J. O'Neill, R. K. Simpson, W. R. Zemlin

#### ADMISSION

In addition to the Graduate College requirements, the general (aptitude) portion of the Graduate Record Examination is required for all curricula. Desired background should include 16 hours of undergraduate credit in the following areas or their equivalent: speech pathology, audiology, phonetics, anatomy and physiology of the vocal mechanism, hearing science, speech science, and voice science.

#### GRADUATE DEGREE PROGRAMS

The department offers courses leading to the master of arts and doctor of philosophy degrees, with specialization in audiology, language development and its disorders, speech or hearing science, and speech pathology.

#### MASTER OF ARTS

In pursuing a master of arts degree, students may concentrate in one of four areas: audiology, language development and its disorders, speech and hearing science, or speech pathology. This degree may be taken as either a terminal degree or as preparation for further graduate study.

For students seeking a terminal degree, the master of arts program is designed to ensure them clinical competence in audiology or speech/language pathology necessary for employment in a hospital, clinic, residential center, or school system. Successful completion of this program ensures that the student has met the academic and clinical requirements for American Speech-Language-Hearing Association (ASHA) certification and can possibly qualify for state certification.

For a student seeking a nonterminal degree, the master of arts program enables the student to undertake fundamental course work that will be an integral part of an overall doctoral program.

The student's program for the master of arts degree will be determined on an individual basis, taking into consideration the Graduate College and departmental requirements. It will be composed of 10 to 13 units from the four specialized areas and related areas. At least 6½ to 7 units must be at the 400 level. The only courses required of all master of arts candidates are Speech and Hearing

Science 399 (Design and Analysis of Experiments in Speech and Hearing Science) and Speech and Hearing Science 496 (Proseminar in Speech and Hearing Science). A master's thesis should be part of the predctoral student's plan of study. A student seeking a master of arts as a terminal degree is encouraged to do a thesis as educational enrichment.

#### DOCTOR OF PHILOSOPHY

Admission to the doctoral program requires completion of a master's degree, or the equivalent, in speech and hearing science or a related area. The program may be planned with specialization in any one of the four areas: audiology, language development and its disorders, speech and hearing science, or speech pathology. The minimum academic course requirements for this degree are 8 units beyond the master's degree and a thesis. If there are deficiencies in the student's background, additional courses will be required; courses taken for this purpose usually are not counted toward the minimum requirement. In addition, a doctoral candidate who did not write a thesis as part of the master's program will be required to complete the equivalent of a master's thesis; these 2 units will not count toward the minimum academic requirement of 8 units. Individual programs of study will be tailored to the student's special needs and are planned by the student and the adviser.

For the student who enters with no deficiencies, the first year or two of the doctoral program is typically devoted to course work in the area of concentration selected by the student and terminates when the preliminary examination is passed. Subsequent time is devoted to research on a special topic and culminates with writing a thesis and passing an oral examination in its defense.

### SPEECH COMMUNICATION

*Head of the Department:* David L. Swanson

*Director of Graduate Study:* Joseph W. Wenzel

*Correspondence and Information:* Director of Graduate Study, Department of Speech Communication, University of Illinois at Urbana-Champaign, 244 Lincoln Hall, 702 South Wright Street, Urbana, IL 61801; (217) 333-2683

#### GRADUATE FACULTY

*Professors:* K. E. Andersen, R. A. Clark, J. G. Delia, D. Desser, C.

Kramarae, J. H. MacLay, D. L. Swanson, J. W. Wenzel

*Associate Professors:* T. M. Conley, N. S. Contractor, J. W. Hay, P. J. Miller, A. Press, B. J. O'Keefe, D. J. O'Keefe

*Assistant Professors:* D. P. Gunkar, D. Goldsmith, A. Hollingshead, J. Jasinski, G. Kamberelis, M. Lacy, M. Perry, C. Taylor

#### ADMISSION

In addition to the Graduate College requirements, the general (aptitude) portion of the Graduate Record Examination and a sample of written academic work are required in all curricula.

#### GRADUATE DEGREE PROGRAMS

The Department of Speech Communication offers courses leading to the master of arts, the doctor of philosophy, and the master of arts in the teaching of speech communication degrees. Specific information on programs of graduate study and financial aid is supplied upon request. Financial aid is usually in the form of part-time teaching assistantships.

#### MASTER OF ARTS

The entering student should present the equivalent of 16 hours of undergraduate work in speech, communications, or a related area. In addition to meeting general graduation requirements of the Graduate College, candidates must pass a final written examination. In some cases an oral examination is also stipulated. A thesis is optional, but may constitute a maximum of 2 units of credit.

#### MASTER OF ARTS IN THE TEACHING OF SPEECH COMMUNICATION

Candidates must first be admitted to a degree program in rhetorical and communication theory. Degree requirements can be met by summer attendance. In meeting Graduate College and departmental requirements, including the comprehensive examination, M.A.T. candidates must complete 6 units of work in the department plus the units of required work in education (see page 196).

#### DOCTOR OF PHILOSOPHY

To be accepted as candidates for the Ph.D. degree, students must present either a well-rounded undergraduate education with an emphasis in speech communication and a master's in a cognate discipline, or they must hold a master's degree in speech communication from an accredited institution.

In addition to meeting general requirements of the Graduate College, the student must satisfactorily complete written and oral preliminary examinations, an oral defense of the thesis prospectus, and an oral defense of the thesis. Students must demonstrate competency in research procedures and tools that may include proficiency in one or more foreign languages, various research methods, or cognate academic work.

## STATISTICS

*Chair of the Department:* Walter Philipp

*Correspondence and Information:* Department of Statistics, University of Illinois at Urbana-Champaign, 101 Illini Hall, 725 South Wright Street, Champaign, IL 61820; (217) 333-2167

### GRADUATE FACULTY

*Professors:* D. Burkholder, L. J. Hubert, P. B. Imrey, K. Joag-Dev, R. Koenker, J. I. Marden, A. T. Martinsek, W. Philipp, S. L. Portnoy, W. F. Stout, S. Wasserman

*Associate Professors:* D. Monrad, E. Portnoy, D. G. Simpson, Z. Ying

*Assistant Professors:* X. He, W. Wu

*Emeritus Professors:* F. B. Knight, R. A. Wijsman

### ADMISSIONS

The Graduate College admission requirements apply. Students are expected to have a strong undergraduate mathematics background, but need not have an undergraduate statistics or mathematics degree. Students may be admitted with deficiencies which are to be removed during the first year of graduate work.

### GRADUATE DEGREE PROGRAMS

The Department of Statistics offers graduate study leading to the master of science or master of arts, the master of science in applied statistics with specialization, and the doctor of philosophy in statistics.

#### MASTER'S DEGREE PROGRAM

The M.S. and M.A. degrees in statistics require 8 units of graduate course work covering both theoretical and applied material. Statistics 324, 325, 326, 327, 410, and 411 are required. At least one additional course at the 400 level is also required. There is no language or thesis requirement, and there are no comprehensive examinations.

#### APPLIED MASTER'S DEGREE WITH SPECIALIZATION

The Department of Statistics offers the master of science in statistics with specialization in a variety of areas of application. The degree program consists of a core of three courses in basic statistical theory from the Department of Statistics, a course in general data analysis, and further course work in a particular discipline as required separately for each specialization. The program offers an additional degree for students earning an advanced degree in the area of application or provides the primary degree for a master's candidate in applied statistics who is interested in a specific disciplinary application.

To be eligible for this program, students must be accepted into either the unit offering the specialization or the Department of Statistics. The following areas of application are now available: social statistics (Department of Sociology); psychometrics and behavioral statistics (Departments of Psychology, Educational Psychology, and Speech and Hearing Science); biostatistics (Department of Biology and the Medical Scholars Program); statistical genetics (Departments of Agronomy and Animal Science).

Full statements of degree requirements are available from the head of the unit offering a specialization or from the head of the Department of Statistics.

#### DOCTORAL DEGREE PROGRAM

A total of 24 units after the baccalaureate is required for the doctor of philosophy degree. These include Statistics 324, 325, 326, 327, 356, 410, 411, 425, 453, 454, 471, 475, and 478. This degree also requires successful completion of the qualifying examination (consisting of examinations on Statistics 324-325, 410-411, and 453-454); a thesis in an area of theoretical, computational, or methodological statistical research; and a final examination on the thesis.

#### FINANCIAL AID

Financial aid is available primarily in the form of teaching assistantships, research assistantships, and fellowships. For further information write to the head of the department.

## THEATRE

*Head of the Department:* David Knight

*Correspondence and Information:* Head, Department of Theatre, University of Illinois at Urbana-Champaign, 4-122 Kranert Center for the Performing Arts, 500 South Goodwin Avenue, Urbana, IL 61801; (217) 333-2371

### GRADUATE FACULTY

*Professors:* J. C. Ahart, J. B. Harris, B. M. Hobgood, J. Hurt, D. Knight, J. MacLay, W. M. Knight, C. Neely, R. Wheeler, B. R. Works

*Associate Professors:* P. Davis, J. Dunn, R. Graves, A. Kaufman, D. Kay, R. McFarquhar, T. Mitchell, M. Mullin, K. Perkins, M. Shapiro, J. Stottlar

*Assistant Professors:* D. Brinker, M. Franklin-White, C. Sevec, M. Sims  
*Emeritus Professors:* C. Behringer, J. Dunn, B. M. Hobgood, B. R. Works

### ADMISSION

Applicants will be considered if they present transcripts documenting undergraduate or graduate study of dramatic literature, theatre history, and theatre practice; in the case of the M.F.A. degree, intensive experience in performance and/or production of plays is necessary, whether or not this activity occurred in an academic context. The faculty expects all applicants to have a cumulative grade-point average of at least 4.0 ( $A = 5.0$ ) in the study of theatre subjects; A.M. and Ph.D. candidates should have a 4.0 grade-point average in all subjects studied at the graduate or undergraduate levels.

### GRADUATE DEGREE PROGRAMS

The Department of Theatre offers graduate work leading to the degrees of master of arts, master of fine arts, and doctor of philosophy.

#### MASTER OF ARTS

A candidate for the A.M. degree must spend at least two semesters in residence; must complete at least 8 units of course work in theatre and related studies, including at least 5 units in history and theory of theatre and 2 in applied theatre; and must pass a final comprehensive examination. Three units must be at the 400 level, and 2 of the 3 must be in theatre. A full-time student can complete this program in one academic year.

#### MASTER OF FINE ARTS

The M.F.A. is a terminal degree in theatre practice. Approved areas of specialization include acting, costume design, lighting design, scene design, stage management, and theatre technology. The candidate for the degree must be in residence six semesters and complete 18 units. In the design/technical and management programs, course work must include at least 8 units in colloquium or creative projects, 3 units in theatre history, and 7 others in department-approved electives. In the acting program, course work includes 12 units in studio, 1 unit in theatre history, and 5 units in department-approved electives. Only full-time students will be admitted to the program.

#### DOCTOR OF PHILOSOPHY

Requirements for the degree are a minimum of 8 units in courses in theatre and related studies beyond the master's degree; a reading knowledge of one foreign language; a minimum of 8 units of thesis research; a comprehensive oral and written examination; an oral or written special-field examination; and defense of the dissertation before a committee of the graduate faculty. The program can be completed in two to three years beyond the master's degree.

## THEORETICAL AND APPLIED MECHANICS

*Head of the Department:* Hassan Aref

*Correspondence and Information:* Graduate Program Coordinator, Department of Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign, 216 Talbot Laboratory, 104 South Wright Street, Urbana, IL 61801; (217) 333-2322

### GRADUATE FACULTY

*Professors:* R. J. Adrian, H. Aref, D. E. Carlson, G. A. Costello, R. B.

Haber, J. G. Harris, J. W. Phillips, D. S. Stewart, R. L. Weaver

*Associate Professors:* D. N. Riah, T. G. Shawk

*Assistant Professors:* S. Balachandrar, K. J. Hsia, P. Sofronis, N. S. Sottos, S. T. Thoroddsen

*Adjunct Faculty:* P. Kurath

*Emeritus Professors:* M. E. Clark, R. E. Miller

*Lecturer:* R. D. Keane

*Department Affiliates:* B. Thomas, D. A. Tortorelli, J. S. Walker, S. R. White



**ADMISSION**

Applicants should have the bachelor's or master's degree in engineering, mathematics, physics, or related fields and meet the Graduate College requirements for admission.

**GRADUATE DEGREE PROGRAMS**

The graduate programs in the Department of Theoretical and Applied Mechanics lead to the master of science and doctor of philosophy degrees. Major areas of study and research are applied mathematics, dynamics and vibrations, fluid mechanics, materials engineering, and solid mechanics.

**MASTER OF SCIENCE**

Candidates must complete a minimum of 8 units of graduate work including a thesis (ordinarily 2 units) and maintain a minimum grade-point average of 4.0 ( $A = 5.0$ ). Students are required to register for the seminar in engineering mechanics. If a student elects not to present a thesis, 9 units of course work are required. Three units must be at the 400 level, and 2 of the 3 must be in theoretical and applied mechanics. A full-time student can usually complete this program in one academic year of study. A student who has an assistantship can usually complete the requirements in one calendar year.

**DOCTOR OF PHILOSOPHY**

Candidates for the doctor of philosophy degree are required to complete 8 units of course work beyond the master's degree with a minimum grade-point average of 4.0. One course (or the equivalent) is required from each of the following major areas in the department: applied mathematics, dynamics and vibrations, fluid mechanics, materials engineering, and solid mechanics. Students are required to register for the seminar in engineering mechanics. A student must pass an oral preliminary examination before commencing the thesis. The thesis research usually constitutes about half of the work beyond the master's degree. A full-time student can usually complete the doctoral program in two years of study beyond the master's degree.

**RESEARCH INTERESTS**

In solid mechanics and materials, current research topics include finite elements for composite plates and shells, woven structures, circuit-board laminates, polymer-matrix microcracking, interphase mechanics; topology optimization, canonical functions and design sensitivity; moving-grid methods, visualization environments; creep resistance and creep failure, hydrogen embrittlement, brittle-to-ductile transitions, dislocation emission, shear instabilities, powder consolidation; implant materials. In fluid mechanics, topics include vortex dynamics; turbulent thermal convection, conditional eddies, boundary-layer instabilities; coating flows, foams and emulsions, dense solid-liquid flows, melt crystallization, materials processing, combustion; particle-image velocimetry. In dynamics, topics include scanning acoustic microscopy, nondestructive evaluation, stochastic wave propagation, complex-structure coherence, and wave scattering.

**FINANCIAL AID**

Half-time teaching and research assistantships allow students to take up to 3½ units of course work each semester. Stipends are based on the student's year in graduate work and on the percentage of time spent on the assistantship. Teaching and research assistantships carry with them waivers of tuition and some service fees. Assistantship applications should be submitted by February 15 for appointments beginning in the fall. Partial fellowships are also available.

**URBAN AND REGIONAL PLANNING**

Head of the Department: Lewis D. Hopkins

Correspondence and Information: Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign, 907½ West Nevada Street, Urbana, IL 61801; (217) 333-3890

**GRADUATE FACULTY**

Professors: C. W. Forrest, L. F. Heumann, G. J. D. Hewings, L. D. Hopkins, T. J. Kim

Associate Professors: R. A. Herndon, G. J. Knaap, B. A. Williams

Assistant Professors: K. P. Donaghy, R. V. George, E. K. Husband, R. B. Olshansky, K. M. Reardon, D. W. Schneider

**ADMISSION**

The social sciences, the physical sciences, the design professions, engineering, and urban planning are relevant undergraduate backgrounds for graduate work in planning. Consideration will also be given to students prepared in the humanities and other fields. The Graduate College admission requirements apply. International applicants must score 590 or better on the TOEFL. The Graduate Record

Examination is required for all applicants. The additional requirements described below apply for admission to the doctoral program.

**GRADUATE DEGREE PROGRAMS**

The Department of Urban and Regional Planning offers graduate work leading to the degrees of master of urban planning and doctor of philosophy in regional planning. Students can also apply to dual degree programs to obtain a juris doctor and a master of urban planning or a master of architecture and a master of urban planning.

**MASTER OF URBAN PLANNING**

The fully accredited master's degree program prepares students for careers in professional practice. Such careers involve public service at all levels of government, private consulting practice, or other organizations in need of planning services. The program also may prepare students for advanced work leading to the Ph.D. degree and a career in teaching and research. The program combines core requirements with a student selected concentration and electives. The program ordinarily requires two years. First-year students take courses focusing on the basic elements of planning, including theory, land use, history, analytical methods, spatial organization, and law. The second year provides opportunity for further work in areas of specialized interest, including environment, economic development, regional science, information systems, land use, housing, community development, transportation, and preservation planning. A thesis or a master's project is required. An internship during the summer between the first and second year is highly recommended.

To qualify for the master of urban planning degree, a student must complete a minimum of either (1) 15 units if a zero-credit internship course (Urban Planning 490) is successfully completed or (2) 16 units if the internship course is not elected. At least 10 units must be in urban and regional planning courses (9 units for students completing Urban Planning 490). At least 4 units must be at the 400 level, and 3 of these must be in urban and regional planning.

**DOCTOR OF PHILOSOPHY IN REGIONAL PLANNING**

The doctoral program is offered in close cooperation with an interdisciplinary program faculty. The program is designed to educate researchers and teachers for university positions as well as specialized practitioners for the public and private sectors. The program emphasizes environmental science and social science aspects of regional planning and incorporates the necessary background in research methods and planning theory and application. Students wishing to pursue environmental science aspects of regional planning should have completed at least three courses in physics, chemistry, or biology; one semester of college-level calculus or linear algebra; one semester of statistics; and one semester of economics. Students wishing to pursue social science aspects of regional planning should have completed at least one semester of economics; three semesters of other social sciences courses, such as economics, political science, or sociology; one semester of statistics; and one semester of college-level calculus or linear algebra. Students otherwise qualified may be admitted with deficiencies in these areas. Deficiencies may be removed by passing proficiency examinations or by taking courses after admission to the program, but courses taken for this purpose will not count toward fulfillment of degree requirements.

To qualify for the Ph.D. in regional planning, 24 units of credit must be completed. The student entering with the baccalaureate degree will be required to complete at least 16 units of course credit and up to 8 units of dissertation credit. The student entering with a master's degree in planning or a closely allied field generally will be required to complete a minimum of 8 units of course credit and up to 8 units of dissertation credit. A maximum of 8 units of advanced-standing credit may be granted. All student programs will consist of courses in planning research methods and planning theory and application. Depending on the program emphasis that a student selects, appropriate courses in environmental science or social science aspects of regional planning will be chosen in consultation with the student's academic adviser. The student must pass a qualifying examination, a preliminary examination of the dissertation proposal, and a final examination on the dissertation.

**FACULTY RESEARCH INTERESTS**

Members of the faculty are engaged in research, public service, and continuing education through the Bureau of Urban and Regional Planning Research. These efforts are undertaken in the areas of land use, economic development, environmental planning, housing, information systems, social planning, transportation, preservation planning, and regional science.

**LIBRARY RESOURCES**

The department has one of the finest planning libraries in the world, with a collection of books and reports developed during the more than seventy-five years that planning education has been offered at this University.

**COMPUTING RESOURCES**

The department has an instructional computing laboratory with sophisticated graphic workstations to support planning decision making.

**FINANCIAL AID**

Fellowships, tuition and service fee waivers, teaching assistantships, and research assistantships are available each year. Financial aid is awarded on the basis of the student's previous academic record and other indicators of potential. In the case of assistantships, the possession of specific teaching or research capabilities is a consideration.

**VETERINARY MEDICAL SCIENCE**

*Dean of the College of Veterinary Medicine:* Victor E. Valli

The College of Veterinary Medicine has realigned the administration of its graduate programs from a single program (veterinary medical science) to three programs corresponding to the academic departments in the college (veterinary biosciences, veterinary clinical medicine, and veterinary pathobiology). Graduate students are admitted directly to one of the three academic department programs.

**VETERINARY BIOSCIENCES**

*Acting Head of the Department:* Kenneth R. Holmes

*Correspondence and Information:* Department of Veterinary Biosciences, University of Illinois at Urbana-Champaign, 3516 Veterinary Medicine Basic Sciences Building, 2001 South Lincoln Avenue, Urbana, IL 61801; (217) 333-2506

**GRADUATE FACULTY**

*Professors:* G. J. Benson, W. B. Buck, L. E. Davis, L. G. Hansen, J. E. Hixon, G. L. Jackson, G. D. Koritz, T. F. Lock, M. Manohar, R. S. Ott, A. J. Parker, C. W. Smith, J. C. Thurmon, M. E. Tumbleson, A. R. Twardock

*Associate Professors:* V. R. Beasley, R. B. Clarkson, P. S. Cooke, J. C. Eurell, T. E. Eurell, B. M. Francis, A. S. Hassan, R. A. Hess, K. R. Holmes, G. A. Iwamoto, E. H. Jeffery, D. R. Krawiec, G. J. Pijanowski, D. J. Schaeffer, M. R. Simon

*Assistant Professors:* D. Bunick, M. Chambers, G. B. Sherman

**GRADUATE DEGREE PROGRAMS**

The Department of Veterinary Biosciences offers graduate work leading to the degrees of master of science and doctor of philosophy. Areas of specialization include anatomy, bioengineering, physiology, pharmacology, toxicology, and nuclear medicine. Each area has a core of required courses supplemented by other courses within the Department of Veterinary Biosciences and from other departments of the Graduate College. Laboratory and animal holding space is provided in the Basic Sciences Building, Veterinary Teaching Hospitals, and the Veterinary Research Farm.

**ADMISSION**

Applicants for graduate study in veterinary biosciences must have a minimum grade-point average of 4.0 ( $A = 5.0$ ). Applicants with a grade-point average between 3.5 and 4.0 may be considered for admission on a probationary status on the basis of individual merit. Grade-point averages will be calculated on the last 60 hours of undergraduate studies for those with or without the D.V.M. degree or on the entire professional curriculum for those with the D.V.M. degree. Applicants with a graduate degree or with some graduate course work will be evaluated on the basis of their graduate work as well as their undergraduate or professional records. Qualifications of students must be approved by the department's committee on admission of graduate students.

**MASTER OF SCIENCE**

The requirements for the degree are (1) 8 units of graduate credit, of which 4 units must be in veterinary biosciences and a minimum of 3 units must be in courses at the 400 level; (2)  $\frac{1}{2}$  unit of veterinary biosciences seminar credit; (3) a thesis on original research; and (4) a final comprehensive examination.

**DOCTOR OF PHILOSOPHY**

The requirements for the degree include (1) 24 units of graduate credit, with at least 16 units (including thesis research) earned in courses

meeting on the Urbana-Champaign campus, on the Chicago campus, or in other locations approved by the Graduate College for graduate credit; (2)  $\frac{1}{2}$  unit of veterinary biosciences seminar credit; (3) a reading proficiency in one foreign language or a functional competency in a computer language; (4) passage of a departmental qualifying examination; (5) passage of the preliminary examination; and (6) a satisfactory original thesis and defense of the thesis in a final examination.

**FINANCIAL AID**

A limited number of research and teaching assistantships or associate positions are available.

**VETERINARY CLINICAL MEDICINE**

*Head of the Department:* H. Fred Troutt

*Correspondence and Information:* Department of Veterinary Clinical Medicine, University of Illinois at Urbana-Champaign, 242 Small Animal Clinic, 1008 West Hazelwood Drive, Urbana, IL 61801; (217) 333-5310

**GRADUATE FACULTY**

*Professors:* G. J. Baker, G. J. Benson, T. J. Burke, W. E. Hoffman, A. L. Johnson, T. F. Lock, D. R. Nelson, R. S. Ott, A. J. Parker, C. W. Smith, J. C. Thurmon, W. J. Tranquilli, H. F. Troutt, A. R. Twardock

*Associate Professors:* K. L. Campbell, R. B. Clarkson, J. H. Foreman, P. A. Gerdung, T. E. Goetz, J. Kakoma, S. K. Knelser, D. R. Krawiec, J. M. Losovsky, B. C. McKiernan, A. J. Paul, D. D. Sisson

*Assistant Professors:* G. C. Althouse, J. A. Cloran, P. D. Constable, D. E. Freeman, C. L. Greenfield, R. E. Hamor, J. C. Huhn, L. L. Hungerford, B. E. Kitchell, S. Manfra, D. Morin

*Emeritus Professors:* B. O. Brodie, E. Small, H. L. Whitmore

**ADMISSION**

Admission requirements include a doctor of veterinary medicine (D.V.M.) degree or equivalent. By petition, non-D.V.M.s may be admitted. Applicants for graduate study in veterinary clinical medicine must have a minimum grade-point average of 4.0 ( $A = 5.0$ ). Admission averages are computed from the entire professional curriculum or from the last 60 hours of undergraduate studies for those without the D.V.M. degree. Applicants with a grade-point average between 3.5 and 4.0 may be considered for admission on limited status on the basis of individual merit. Applicants who have a prior graduate degree or who have completed some graduate course work will be evaluated on the basis of their graduate work as well as their undergraduate or professional records. Acceptance of students must be approved by the department's Graduate Committee.

**GRADUATE DEGREE PROGRAMS**

The Department of Veterinary Clinical Medicine offers a graduate program leading to the master of science degree. The primary goal of graduate programs in veterinary clinical medicine is to prepare students for careers involving research and/or teaching in a specialty area. Graduate work in veterinary clinical medicine may be pursued in several areas, including anesthesiology, equine medicine and surgery, food animal medicine and surgery, ophthalmology, radiology, small animal medicine, small animal surgery, swine medicine, and theriogenology (animal reproduction). The department, with the teaching hospital, has facilities and equipment for studies of clinical aspects of diseases and other conditions in domestic species.

After completing graduate work, the student will be able to conduct research both independently and as a team member. Adequate training in planning research projects and writing research proposals will give the student the ability to function with teams of scientists from various areas of the biomedical field. Experience in clinical teaching and literature study will form the basis for the student's development of teaching programs within his or her discipline.

A residency program, designed to train a veterinarian for specialty clinical practice, can be combined with the graduate program. While a graduate program can be accomplished in a shorter time period, the duration of combined programs is usually three years, reflecting the time required to satisfy the objective of each program. Details of the residency program can be obtained from the head of the Department of Veterinary Clinical Medicine.

**MASTER OF SCIENCE**

The master's degree in veterinary clinical medicine includes completion of a thesis that conforms to V.C.M. requirements.

The credit requirements for the master's degree are in accordance with those of the Graduate College. The minimum is 8 units, no more than 3 units of thesis credit may be included in any 8-unit program. At

least 3 units must be in 400-level courses (exclusive of 499 and 490) and 2 of the 3 units must be in the student's major field of study. To maintain good standing in a graduate program, a student must have a cumulative grade-point average of at least 4.0 ( $A = 5.0$ ). One statistics course is required.

The candidate must complete all requirements of the department and the Graduate College and pass the stipulated examinations. The final M.S. examination consists of a presentation of the dissertation in the form of a departmental seminar (VCM 490). The seminar is followed by an oral examination administered by the candidate's committee and the department head. The student must demonstrate the ability to design and conduct independent research in order to be granted the M.S. degree.

#### FINANCIAL AID

A limited number of teaching associate positions are available.

#### VETERINARY PATHOBIOLOGY

*Head of the Department:* Wanda Haschek-Hock

*Correspondence and Information:* Department of Veterinary Pathobiology, University of Illinois at Urbana-Champaign, 2522 Veterinary Medicine Basic Sciences Building, 2001 South Lincoln Avenue, Urbana, IL 61801; (217) 333-2449

#### GRADUATE FACULTY

*Professors:* L. G. Biehl, J. A. D. DiPietro, H. B. Gelberg, W. M. Haschek-Hock, W. E. Hoffman, R. D. Smith, G. D. Taylor, D. N. Tripathy, V. E. Valli

*Associate Professors:* R. DoCampo, E. C. Hahn, R. E. Isaacson, C. J. Jones, I. Kakoma, U. D. Kitron, M. S. Kuhlenschmidt, A. J. Paul, G. Scherba, M. Segre, A. R. Smith, M. A. Wallig, R. M. Weigel, H. E. Whiteley, E. R. Vimr, J. F. Zachary

*Assistant Professors:* G. Foley, L. L. Hungerford, C. Lichtensteiger, S. N. Moreno, F. A. Zuckerman

#### ADMISSION

Applicants for graduate study in veterinary pathobiology must have a minimum grade-point average of 4.0 ( $A = 5.0$ ). Applicants with a grade-point average between 3.75 and 4.0 may be considered for admission on a probationary status on the basis of individual merit. Grade-point averages will be calculated on the last 60 hours of undergraduate studies for those without the D.V.M. degree or on the entire professional curriculum for those with the D.V.M. degree. Applicants with a graduate degree or with some graduate course work will be evaluated on the basis of their graduate work as well as their undergraduate or professional record. Qualifications of students must be approved by the department's committee on admission of graduate students.

#### GRADUATE DEGREE PROGRAMS

The Department of Veterinary Pathobiology offers graduate work leading to the degrees of master of science and doctor of philosophy. Areas of specialization include epidemiology, immunology, laboratory animal medicine, microbiology, parasitology, clinical pathology, and pathology. Each specialty area has a core of required courses supplemented by other courses within the Department of Veterinary Pathobiology and from other departments of the Graduate College.

#### MASTER OF SCIENCE

The requirements for the degree are (1) 8 units of credit, of which 4 units must be in veterinary pathobiology, with at least 3 of the units in courses at the 400 level; (2)  $\frac{1}{2}$  unit of veterinary pathobiology seminar credit; (3) a thesis on original research or a publishable manuscript; and (4) a final comprehensive examination.

#### DOCTOR OF PHILOSOPHY

The requirements for the degree are (1) 24 units of credit (8 units toward the Ph.D. degree are allowed for an M.S. degree completed elsewhere), 12 units of which (including thesis research) must be in the Department of Veterinary Pathobiology and 4 units in other departments of the Graduate College; (2)  $\frac{1}{2}$  unit of veterinary pathobiology seminar credit; (3) satisfactory completion of a communicative skills requirement; (4) passage of the preliminary examination; and (5) a satisfactory original thesis and defense of the thesis in a final examination.

#### SPECIALIZATION IN INFECTIOUS DISEASES

The Department of Veterinary Pathobiology offers an area of specialization in infectious diseases. The program is flexible and provides the student with proficiency in several areas of microbiology, parasitology, epidemiology, immunology, and molecular genetics. Students elect-

ing this area should have completed course work in basic genetics, biochemistry, and computer science. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

#### FINANCIAL AID

A limited number of teaching and research assistantships or associate positions are available.

#### WOMEN'S STUDIES PROGRAM

*Director of Women's Studies:* Cheris Kramarae

*Assistant Director:* Phyllis Vanlandingham

*Correspondence and Information:* Director, Women's Studies Program,

University of Illinois at Urbana-Champaign, 911 South Sixth Street, Champaign, IL 61820; (217) 333-2990; FAX: (217) 333-0151

The Women's Studies Program (WSP) is an interdisciplinary academic unit in the College of Liberal Arts and Sciences. Many UIUC faculty, including the forty UIUC faculty members associated with the Women's Studies Program, offer undergraduate and graduate courses through the WSP or their home departments, with an emphasis on scholarship treating women and gender issues. Graduate students pursuing M.A. or Ph.D. degrees in participating departments may also complete a minor in women's studies. Students interested in the graduate women's studies minor should enroll in a degree program in one of the participating departments and then submit an application form to the Women's Studies Program. Contact the WSP office to obtain a list of participating departments or an application form.

#### GRADUATE MINOR IN WOMEN'S STUDIES

In order to complete the graduate minor at the master's or doctoral level, students must take three units of course work in women's studies, as follows: 1) either Women's Studies 401: Feminist Scholarship in the Humanities: Theory and Method or Women's Studies 402: Feminist Scholarship in the Social Sciences: Theory and Method, 2) two additional 300- or 400-level women's studies, or women's studies cross-listed courses or concurrently listed courses (topics courses often initiated by other departments which are also listed under the WS rubric in the *Timetable*), at least one of which originates outside the student's home department. Women's Studies 401 or 402 (whichever did not count in 1 above) may serve as one of the additional courses. A practicum or independent study may also serve as one of the courses.

*For the Doctoral Minor Only.* The Women's Studies Program would like to support students in their doctoral research. Whenever possible, it is recommended that doctoral students receive guidance on their dissertation topic, resources, and methodology from their women's studies faculty adviser or other women's studies faculty. Special arrangements will be possible for doctoral students who come in with a master's degree and have completed women's studies course work elsewhere.

#### WRITING STUDIES

*Director of the Center for Writing Studies:* Gail E. Hawisher

*Correspondence and Information:* Center for Writing Studies, University of Illinois at Urbana-Champaign, 201 English Building, 608 South Wright Street, Urbana, IL 61801

The Center for Writing Studies facilitates research and promotes graduate study in the areas of rhetoric, written composition, language, and literacy. The center offers graduate students pursuing M.A. or Ph.D. degrees in participating departments a program leading to a specialization in writing studies.

#### ADMISSION

Students are invited to apply through participating departments and programs, including the Department of English, the Department of Speech Communication, the Division of English as an International Language, and the College of Education.

Faculty and students in CWS focus their interests around three principal areas: the historical, the theoretical, and the empirical study of writing. Specific faculty interests include research in computers and composition studies, methods of rhetorical and functional language analysis, cognitive processes in message production, the development of language and literacy theory and policy, and problems in technical and scientific writing. Graduate students affiliated with CWS may also explore the aesthetic, social, and cultural dimensions of



language and relate theories of writing to theoretical work in criticism and linguistics, as well as to anthropology, psychology, reading, and education.

Graduate training in scholarship and research is accompanied by an equally thorough preparation for teaching. Students who affiliate with CWS are eligible for a teaching or research assistantship as soon as they begin their program and are assisted through a week-long orientation and advising program. They also participate in professional seminars in the teaching of composition, business and technical writing, the tutoring of writing, and other courses related to writing across the curriculum and composition studies. Graduate students may work as tutors in the writer's workshop as writing instructors, as teacher trainers and supervisors in the Writing across the Curriculum program, and as research assistants to the faculty of the center. CWS is also home to *Computers and Composition*, a journal for teachers of writing, and the *CCCC Bibliography of Composition and Rhetoric*.

#### **FINANCIAL AID**

Graduate students are eligible for teaching and research assistantships in several different areas of composition studies and are given full responsibility for their own sections. Tuition and fees are waived for graduate students who hold assistantships.

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## APPENDIX A

### Rubric Abbreviations

Following is a list of official rubric abbreviations for courses currently approved for offering on the Urbana-Champaign campus of the University of Illinois.

A A E	Aeronautical and Astronautical Engineering	EALC	East Asian Languages and Cultures	NUTRS	Nutritional Sciences
ACCY	Accountancy	ECE	Electrical and Computer Engineering	PERS	Persian
ADV	Advertising	ECON	Economics	PHIL	Philosophy
AFAS	Air Force Aerospace Studies	ED PR	Educational Practice	PHYCS	Physics
AFLNG	African Languages	EDPSY	Educational Psychology	PHYSL	Physiology
AFRO	Afro-American Studies	EDUC	Education	PLBIO	Plant Biology
AFRST	African Studies	EEE	Ecology, Ethology, and Evolution	PL PA	Plant Pathology
AGCOM	Agricultural Communications	E I L	English as an International Language	POL S	Political Science
AGE	Agricultural Engineering	ENG	Engineering	PORT	Portuguese
AG EC	Agricultural Economics	ENG H	Engineering Honors	PSYCH	Psychology
AG ED	Agricultural Education	ENGL	English	REES	Russian and East European Studies
AG M	Agricultural Mechanization	ENTOM	Entomology	REHAB	Rehabilitation Education
AGR	Agriculture	ENVST	Environmental Studies	RELST	Religious Studies
AGRON	Agronomy	E P S	Educational Policy Studies	RHET	Rhetoric and Composition
AHCE	Administration, Higher, and Continuing Education	E S L	English as a Second Language	RMLNG	Romance Linguistics
ANSCI	Animal Sciences	F A A	Fine and Applied Arts	R SOC	Rural Sociology
ANTH	Anthropology	FACE	Family and Consumer Economics	RUSS	Russian
ARAB	Arabic	FIN	Finance	SANSK	Sanskrit
ARCH	Architecture	F N	Foods and Nutrition	SCAN	Scandinavian
ARTCI	Cinematography	FOR	Forestry	S CR	Serbo-Croatian
ARTCR	Crafts	FR	French	SLAV	Slavic
ART&D	Introduction to Art and Design	F S	Food Science	SOC	Sociology
ARTED	Art Education	G C	Graduate College	SOC S	Social Science
ARTGD	Graphic Design	G E	General Engineering	SOC W	Social Work
ARTGP	General Professional Courses in Art and Design	GEOG	Geography	SOILS	Soils
ARTHI	History of Art	GEOL	Geology	SPAN	Spanish
ARTID	Industrial Design	GER	German	SPCOM	Speech Communication
ARTPA	Painting	GMC	Germanic	SP ED	Special Education
ARTPH	Photography	GRK	Greek	SPSHS	Speech and Hearing Science
ARTPR	Printing	HDFS	Human Development and Family Studies	STAT	Statistics
ARTSC	Sculpture	HEBR	Hebrew	T A	Textiles and Apparel
AS ST	Asian Studies	HINDI	Hindi	T A M	Theoretical and Applied Mechanics
ASTR	Astronomy	HIST	History	THEAT	Theatre
ATMOS	Atmospheric Sciences	HORT	Horticulture	UKR	Ukrainian
AVI	Aviation	HRFS	Human Resources and Family Studies	U P	Urban and Regional Planning
B ADM	Business Administration	HUMAN	Humanities	V B	Veterinary Biosciences
BIOCH	Biochemistry	I E	Industrial Engineering	V C M	Veterinary Clinical Medicine
BIOEN	Bioengineering	ITAL	Italian	V M S	Veterinary Medical Science
BIOI	Biology	JAPAN	Japanese	VOTEC	Vocational and Technical Education
BIOPH	Biophysics	JOURN	Journalism	VP	Veterinary Pathobiology
BR	Bridge Program	KINES	Kinesiology	W S	Women's Studies
B&T W	Business and Technical Writing	KOREA	Korean		
BULG	Bulgarian	L A	Landscape Architecture		
BUS	Business	L A S	Liberal Arts and Sciences		
CATAL	Catalan	LA ST	Latin American and Caribbean Studies		
C E	Civil Engineering	LAT	Latin		
CER E	Ceramic Engineering	LAW	Law		
CH E	Chemical Engineering	LEIST	Leisure Studies		
CHFM	Chemistry	LING	Linguistics		
CHIN	Chinese	L I R	Labor and Industrial Relations		
CHI.TH	Community Health	LIS	Library and Information Science		
C & I	Curriculum and Instruction	MATH	Mathematics		
CINE	Cinema Studies	MATSE	Materials Science and Engineering		
CLCIV	Classical Civilization	MCBIO	Microbiology		
CLIT	Comparative Literature	M E	Mechanical Engineering		
COMM	Communications	MED S	Medical Sciences		
COP	Coptic	MET E	Metallurgical Engineering		
C S	Computer Science	MFG E	Manufacturing Engineering		
CSB	Cell and Structural Biology	MIL S	Military Science		
CZECH	Czech	MUSIC	Music		
DANCE	Dance	N S	Naval Science		
		NUAS	Administrative Studies (Nursing)		
		NUC E	Nuclear Engineering		
		NUMC	Maternal-Child Nursing		
		NUMS	Medical-Surgical Nursing		
		NUPH	Public Health Nursing		
		NUPS	Psychiatric Nursing		
		NUSC	Nursing Sciences		

## APPENDIX B

### *University of Illinois Residency Status Regulations for Admission and Assessment of Student Tuition*

#### GENERAL

The University of Illinois is a land-grant institution assisted by funding from state of Illinois tax revenue. As a state tax-assisted institution, the University (with some exceptions) extends preference in admission and tuition to residents of the state of Illinois—that is, to students whose circumstances conform to the University's definition of resident status below.

The University of Illinois's definition of the term "resident" may be different from the definitions developed by other, non-University, agencies. Thus, a person who is an Illinois resident for tax or voting purposes, for example, is not necessarily a resident for University of Illinois tuition and admission purposes. The University's definition of resident status applies both to payment of tuition and admission to the University of Illinois.

Principal elements that determine residency are domicile in Illinois and actions that evidence the intent to make Illinois the person's permanent residence. A person has but one domicile at any time. Mere physical presence in Illinois, regardless of how prolonged, is insufficient to establish residency without existence of action and intention to make the place a permanent residence and principal home. In order to establish bona fide residency in Illinois under this policy, a person must demonstrate presence and intent to reside permanently in Illinois for reasons other than educational objectives.

The burden of establishing that a student is domiciled in Illinois for other than educational purposes is upon the student. The regulations, factors, and procedures enumerated in this policy will be considered by the University in determining the residency status of students.

#### REGULATIONS

The following regulations are used to determine the resident classification of a student for admission and tuition assessment.

- A. A student's domicile is presumed to be that of his/her parent(s) or legal guardian unless the student is emancipated and establishes a separate domicile.

A person who is dependent upon his/her parent(s) or other person in authority, other than spouse, for financial support shall not be considered emancipated for the purpose of these regulations. A person claiming emancipation may be requested to present satisfactory evidence that his/her parent(s) or legal guardian have not contributed significantly to his/her support or claimed him/her as a dependent for federal or state income tax purposes during the period for which emancipation is claimed.

- B. In order to be classified as a resident for purposes of admission, an emancipated person shall be domiciled in Illinois and a bona fide resident of the state for at least six consecutive months immediately preceding the date of receipt of the application for admission. To be considered a resident for purposes of assessment of tuition, an emancipated person must be a bona fide resident of the state for at least six consecutive months immediately preceding the first scheduled day of classes for the term for which residency is sought.

- C. A student must prove reliance upon resources in Illinois for more than fifty percent of the income sufficient to provide for tuition, fees, living, and related expenses. Income earned as a result of University enrollment, such as graduate assistantships or student employment, is not considered as evidence of intent to establish residency.

Even though a divorced or separated parent who is not a resident of Illinois provides significant financial support to the student, the student shall be classified as resident as long as the other parent resides permanently in Illinois.

- D. A person who is not a citizen of the United States of America may establish resident status unless the person holds a visa that precludes an intent to permanently reside in the United States. A list of the visa classification may be obtained from the Office of Admissions and Records.

- E. A noncitizen may commence establishment of residency with notification of permanent residency status by the United States

Immigration and Naturalization Service provided the person meets and complies with all the applicable requirements of these Regulations.

- F. The minor children of persons who, having resided in this state for at least twelve months immediately prior to such a transfer, are transferred by their employers to some location outside the United States shall be considered as Illinois residents for purposes of the computation and payment of tuition at any state-supported school. However, this Section shall apply only when the minor children of such parents enroll in a state-supported college or university within five years from the time their parents are transferred to some location outside the United States.

If the parent(s) or legal guardian of a resident student establishes a domicile outside the state of Illinois after the student has been admitted, the student shall continue to be classified as a resident student until degree completion, assuming timely matriculation and providing the student maintains continuous enrollment and maintains a separate residence within the state of Illinois.

- G. It is required that a person who claims Illinois domicile while living in another state or country will provide proof of the continued Illinois domicile. Proof may include, but is not limited to, evidence that the student (or parent or legal guardian as applicable) has not acquired a domicile in another state, has maintained a continuous voting record in Illinois, and has filed regular Illinois resident state income tax returns during absence from the state.

- H. A student whose parents move to Illinois may become a resident at the beginning of the next term following the move.

- I. A nonresident shall be classified as a resident if his/her spouse is a resident of Illinois. A noncitizen may establish residency through his/her resident spouse, provided the noncitizen complies with Section D of these Regulations.

- J. A person who is actively serving in the Armed Forces of the United States and who is stationed and/or present in the state in connection with that service may be eligible for a waiver of the nonresident portion of tuition in accordance with Board policy as long as the person remains stationed and/or present in Illinois. The waiver is extended to the person's spouse and dependent children when they also live in the state. A resident of Illinois, and the spouse and dependent children, who is stationed outside of Illinois in active service in the Armed Forces of the United States and who has maintained residency under Section G shall be classified as a resident.

- K. Staff members of the University and of allied agencies, and faculties of state-assisted institutions of higher education in Illinois, holding an appointment of at least one-quarter term, and their spouses and dependent children, shall be treated as residents.

- L. Nonresident teachers in the private and public elementary and secondary schools in Illinois holding an appointment of at least one-quarter time shall, if required to pay tuition, be assessed at the resident rate. This privilege also extends to the summer session immediately following the term of appointment.

Any nonresident teacher who qualifies for resident tuition as described above shall become subject to nonresident tuition for the entire term if the school appointment is vacated prior to completion of three-fourths of the term in question. Resignation or cancellation of the appointment prior to the close of the spring term also cancels the eligibility for the resident tuition privilege in the following summer term.

#### FACTORS IN DETERMINING RESIDENCY

The following circumstances, although not necessarily conclusive, have probative value in support of a claim for resident classification.

- A. Bona fide residency—including continuous physical presence—in the state of Illinois for at least six consecutive months immediately preceding the date of receipt of the application for admission, or, for tuition purposes, six consecutive months immediately preceding the first scheduled day of classes for the term for which resident classification is sought. For the purpose of establishing domicile, continuous physical presence is defined as no absence from the state for more than a three-week period.

- B. Domicile in Illinois of parent(s) or guardian legally responsible for the student. Domicile in Illinois of spouse.

- C. Voting or registration for voting in Illinois.
- D. Illinois driver's license or identification card and automobile registration.
- E. Payment of Illinois income/property taxes and/or ownership of property in Illinois.
- F. Self-supporting reliance upon sources in Illinois for significant financial support. Evidence that an emancipated student is not claimed as a dependent by nonresident parents.
- G. The lease of living quarters and payment of utility bills in Illinois.
- H. Former domicile in the state and maintenance of significant connections therein while absent.
- I. Admission to a licensed practicing profession in Illinois.
- J. Long-term military commitments in Illinois and/or proof that Illinois is the home of record. The petitioner must complete a *Military Certification Form*, which can be obtained at the Office of Admissions and Records.
- K. Employment in Illinois other than in graduate assistantships or student employment.
- L. Establishment of financial accounts at Illinois institutions.
- M. Public records, for example, birth and marriage records.
- N. Other official documents verifying legal, official connection with Illinois or with organizations or institutions within the state of Illinois.
- O. Exclusive use of the Illinois address when home or mailing address is requested.

The University may request additional documentation of the evidence. Missing evidence, the lack of evidence, or inconsistent evidence may be used to refute the claim of residency.

#### PROCEDURES

The director of Admissions and Records, or a designee, shall determine the initial residence classification of each student at the time the student enters or reenters the University.

A student who is not satisfied with a determination concerning his/her residence classification may request that the responsible official reconsider the determination. For the purposes of admission, the written request must be received by the Office of Admissions and Records *within twenty calendar days* from the date of notification of residency status. For the purposes of assessment of tuition, the written request must be received by the Office of Admissions and Records *within twenty days of the date of assessment of tuition or the first scheduled day of classes* for the term for which the tuition is payable, whichever is later.

The request should include the *Petition for Determination of Residency Status* and all other materials applicable to the claim. The request and accompanying documentation will not be returned, and the student is advised to maintain a copy for his/her record.

If the student is still not satisfied with the determination after it has been reconsidered, the student may appeal the decision to the director, University Office for Academic Policy Analysis. The appeal shall be in writing and shall include reasons for the appeal. The appeal must be received by the director of Admissions and Records *within twenty days of the notice of the ruling*. The appeal will then be referred to the director, University Office for Academic Policy Analysis. A student who fails to file such an appeal *within twenty days of the notice of the ruling* waives all claims to reconsideration for that academic session. Filing deadlines cannot be extended or waived and applications and appeals untimely filed will not be reviewed. The decision of the director, University Office for Academic Policy Analysis, shall be final in all cases.

A student may be reclassified at any time by the University upon the basis of additional or changed information. If the student is classified in error as a resident student, nonresident tuition shall be assessed in the next term; if the student is classified in error as a nonresident, resident tuition shall be assessed in the term in which the classification occurs, provided the student has filed a written request for a review in accordance with these regulations.

A student who fails to notify the University of a change of facts or provides false information that might affect classification or reclassification from resident to nonresident status and/or who provides false information or conceals information for the purpose of achieving

resident status may be subject to appropriate disciplinary action, as well as other penalties prescribed by law. Further information or clarification may be secured by contacting the director of Admissions and Records on the campus concerned:

100a Henry Administration Building (MC-332)  
University of Illinois at Urbana-Champaign  
Office of Admissions and Records  
506 South Wright Street  
Urbana, IL 61801

2300 Alumn Hall (MC-018)  
University of Illinois at Chicago  
Office of Admissions and Records  
P.O. Box 5220  
Chicago, IL 60680



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